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ABSTRACT

This study's data were collected by telephone and written questionnaires from 15- to 24-year-olds, the age reported to be at high risk for disorders such as depression. The survey revealed that of those contacted, one in four females and one in eight males reported high levels of depressive symptomatology. One in three had suicidal thoughts at some time. There were significant levels of risk-taking behavior including smoking, drinking, taking drugs, and engaging in unprotected sexual activity. Risky behaviors correlated with depression risk, but the direction of causality was not established. Young people in the study did not use traditional mental health services, but tended to rely on family and friends. Seventy-one of the young people who reported that they had attempted suicide did not receive medical assistance or see a mental health professional. Findings provide the basis for recommendations that stress the need for initiatives to decrease risk factors for depression among young people. The study's results also stress the need to enhance young people's interpersonal skills in order to enhance their family attachments and social relationships. (Contains 19 figures, 38 tables, and 53 references.) (JDM)

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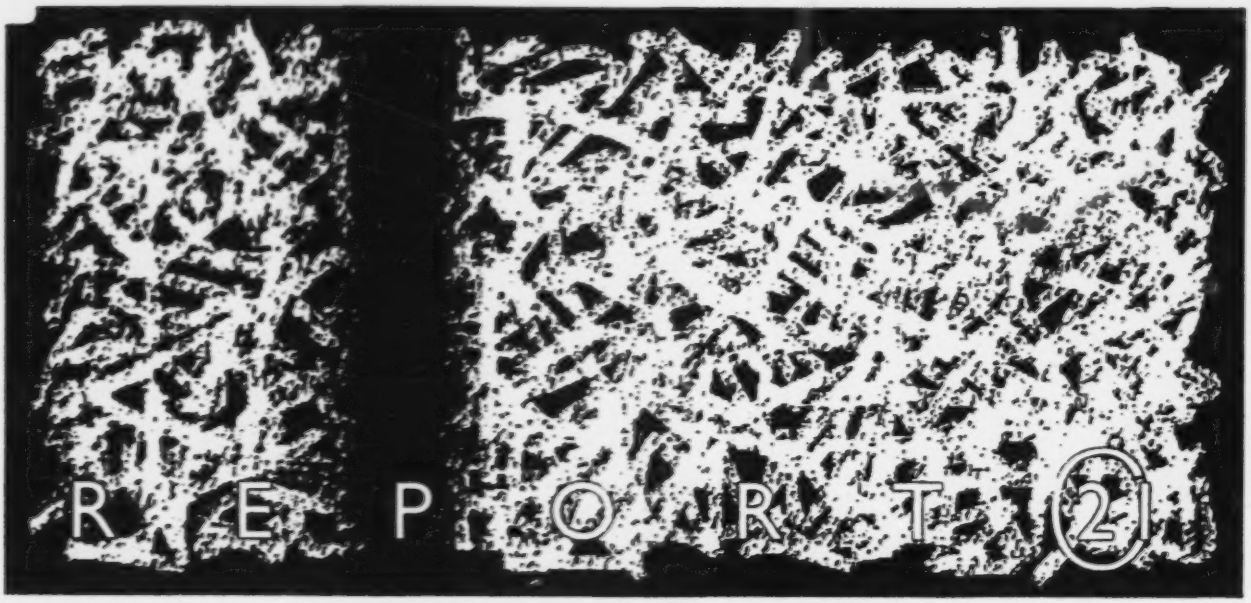

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The Queensland Young People's Mental Health Survey Report

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Foreword

This survey was conducted as part of Queensland Health's Young People at Risk Program and carried out through the Research and Evaluation component of the program in The University of Queensland.

The data was collected by cross-sectional survey using telephone recruitment followed by a postal questionnaire. A representative sample of the Queensland population in the age group 15 to 24 years was surveyed - an age period reported to be that of high risk for the onset of disorders such as depression, and the period of highest prevalence (ABS, 1998a).

The findings of this survey are important, even given the limitations of this type of approach. There was a high response rate (67.3%), but it must be acknowledged that groups of young people may not have been reached through this approach either because they have moved on to higher education or other situations, or because they are disadvantaged, potentially homeless and thus not contactable. Nevertheless, the survey revealed that of those contacted significant numbers reported high levels of current depressive symptomatology, (1 in 4 females and 1 in 8 males). One in three young people had had suicidal thoughts at sometime in their lives and 1% currently had a plan for suicide. There were significant levels of risk taking behaviours including smoking, drinking, drug taking and unprotected sexual activity. These "risky" behaviours correlated with depression risk, but the direction of causality was not established. Young people did not use traditional mental health services, but tended to rely on family and friends. Disturbingly 71% of the young people who reported they had attempted suicide did not receive medical assistance, and the majority of these did not see a mental health professional. Relationship break-ups, problems with parents, a history of sexual abuse, and anxiety about failure were risk factors, as were issues of sexual identity. Protective factors were also measured as a unique and important component of this study, showing the value of social and community connectedness, a sense of hopefulness, a sense of self-actualisation, and good problem solving abilities.

The findings provide a strong basis for recommendations which highlight the importance of initiatives to reduce risk factors for depression among young people, continued support of suicide prevention initiatives, the need to enhance young people's interpersonal and intrapersonal skills, and to enhance family attachments and social and community connectedness. The importance of enhancing recognition of and response to depression and suicidal ideation, as well as the risk factors identified, is highlighted as is the need for both adequate mental health services and strong pathways to care for these young people. Mental health promotion, prevention and early intervention as well as effective treatment programs can help to lessen this concerning level of problems amongst young people. But centrally, improving broader social variables will also be critical, particularly those that strengthen families and communities and enhance family attachment and connectedness, and that value and nurture young people in their diverse life pathways.

Emeritus Professor Beverley Raphael

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The transition from childhood to adulthood is generally characterised as a time of rapid change during which young people are faced with a myriad of social, family, community, environmental, and cultural factors that may impact on their health, well-being and development. While the majority of young people will successfully navigate the challenges inherent to this time, some young people will experience difficulties. It is argued that when these difficulties arise, given the complexities involved, it is best to adopt a multifaceted approach to the development of health promoting environments and mental health promotion strategies for young people. Furthermore, to improve the mental health and well-being of young people, prevention programs should be sensitive to the specific lifestyles and needs of young people (Fisher and Fisher, 1992).

Young people are not a homogenous group. Subsequently, the social, cultural and environmental factors and influences, which contribute to the diversity of young peoples' cultures, need to be considered in any mental health promotion and mental illness prevention program. Also, preventive efforts should not focus on risk factors alone. Resilience and protective factors are vital considerations in attempting to promote healthy behaviour and lifestyles among young people. In the 1980s, Michael Rutter, among other researchers, acknowledged the importance of resilience, noting that "even with the most severe stresses and the most glaring adversities it is unusual for more than half of children to succumb" (Rutter, 1985 p.598). While the investigation of resilience and protective factors is in its infancy, it has much to offer in terms of designing effective mental health promotion and prevention, and early intervention strategies for young people.

Young people's health and well-being is a broad area that encompasses a range of issues from young people's cultures; leisure activities and hobbies; health related behaviours such as drug/alcohol use and sexual health; family influences; quality of life; common sources of distress such as interpersonal relationships; criminal and delinquent behaviour; social issues such as unemployment and poverty; through to conditions such as depression, schizophrenia and eating disorders. In a report released by the Australian Institute of Health and Welfare (AIHW) (Moon, Meyer and Grau, 1999), several of these issues are described for young Australians aged 12 to 24 years. Briefly, the report states that generally young Australians are in good health. Furthermore, young people's health and well-being has improved in a number of areas; for example the rates of teenage pregnancy, rates of infection with HIV and deaths due to car accidents have declined in recent years. Nevertheless, there are still a number of areas of concern. One in 5 males and 1 in 10 females aged 18 to 24 years were found to have substance use disorders. 22% of 15 to 24 year olds were overweight or obese. 25%, of young people aged 14 to 19 years and 40% of those aged 20 to 24 years were regular or occasional smokers and 38% of young people aged 14 to 24 years reported using marijuana in the past 12 months. Drug dependence accounted for 7% of deaths in the age group 12 to 24 years.

Moreover, the AIHW report recognises that the major burden of disease for young people is from mental disorders. Specifically, 20% of 12 to 16 year olds were reported to have a mental health problem, and 27% of 18 to 24 year olds were reported to have a mental disorder. The report also illustrates how the rate of suicide for young Australian males climbed steadily between the 1950s and the 1990s. The rate has also increased for young Australian females but not to the same degree. In 1997, the rate of death by suicide for 12 to 24 year old males was 24 per 100,000 and for 12 to 24 year old females was 6 per 100,000.

Several recent large-scale Australian research studies have been concerned with gathering information about young people, their contexts, mental health and

well-being. They include the Western Australian Child Health Survey (Zubrick et al., 1997), the Australian Longitudinal Survey (Rickwood and d'Espaignet, 1996), the Victorian Study of High School Students (Patton et al., 1997) and the Australian Bureau of Statistics study of adults' mental health and well-being, which includes the age group 18 to 24 years (Australian Bureau of Statistics, 1998a). Despite the considerable contributions of these studies to our knowledge, there remains a need to further increase understanding of the critical factors and influences that contribute to young people's mental health and well-being. This is particularly so since the empirical evidence that emerges from large-scale surveys such as these provides essential information and directions on which to base mental health promotion and prevention and early intervention initiatives.

Two adverse mental health outcomes for young Australians, which have become the focus of recent research and policy developments, are depression and suicide. The occurrence of depression and its consequences have become important issues within the broader health field since an emphasis has been placed on the high prevalence of depression and its concomitant costs both social and economic. According to the World Health Organisation (Murray and Lopez, 1996), it is suggested that by the year 2020 unipolar major depression will be ranked as the second highest disease burden world-wide, after ischaemic heart disease. Young people are not excluded from this burden. In Australia, the National Health and Medical Research Council Clinical Practice Guidelines for Depression in Young People recognised the high prevalence of depression and the reduced quality of life associated with depression among young people (NHMRC, 1997).

In relation to suicide among young Australians, a report published in the Australian Injury Prevention Bulletin highlights the reasons underlying the growing concern about rates of suicide for this age group (Harrison, Moller and Bordeaux, 1997). During the past 30 years, rates of suicide among young males in Australia aged 15 to 24 years have trebled and, although the rise in rates for females has not been so dramatic, there was a substantial increase in the rate of suicide for young females in the early 1960s at which time the rate almost doubled. While historically motor vehicle accidents have been the most common cause of death for young people, particularly young men, in recent times suicide has rivalled motor vehicle accidents as the leading cause of death among young people aged 15 to 24 years. While this finding may be, in part, due to the success at lowering deaths resulting from car accidents in this age group, a rise in suicide rates is also evident. It is important to note that this increase has not been restricted to the age group 15 to 24 years but also includes young males aged 25 to 34 years (Cantor, Neulinger and De Leo, 1999).

Given the emerging significance of such mental health issues for young people, the principal purposes of the current report include a description of the prevalence of adverse life events and issues that commonly distress young people and may therefore underlie adverse mental health outcomes such as depression. The prevalence of mental health problems with a specific focus on current depressive symptomatology is reported. The report also provides an overview of the prevalence of a range of health risk behaviours for young people. Young people's help-seeking behaviour and mental health service utilisation are also addressed. Finally, the risk and protective factors for current depressive symptomatology are explored. The inclusion of protective factors in this model contributes to the evolution of frameworks for understanding depression among young people.

1.1 AUSTRALIAN AND QUEENSLAND YOUNG PEOPLE'S MENTAL HEALTH POLICY AND STRATEGIC CONTEXT

The first nationally co-ordinated approach to addressing mental health in Australia was initiated in 1992 with the release of the National Mental Health Strategy. Incorporated within the strategy was the National Mental Health Policy (Australian Health Ministers, 1992), and more recently the Second National Mental Health Plan (Australian Health Ministers, 1998) has been released. Throughout the five-year period, specifically July 1998 to June 2003, of the Second National Mental Health Plan (Australian Health Ministers, 1998) the Commonwealth Government has allocated $300 million to its implementation. The second plan details three themes: (1) promotion and prevention, (2) partnerships and service reform and (3) quality and effectiveness. The plan also lists two priority areas: a client focus and a focus on depression. The first is primarily about expanding the focus of mental health services beyond people with mental illness to include "a broader range of people with high level needs" (p. 10). The focus on depression addresses the notion of working across the Commonwealth, States and Territories and in collaboration with the National Public Health Partnerships, in order to address the spectrum of depression.

The first of the three themes identified in the Second National Mental Health Plan (Australian Health Ministers, 1998) led to the development of the Mental Health Promotion and Prevention National Action Plan (Commonwealth Department of Health and Aged Care, 1999). This action plan identifies a range of priority target groups and populations across the life span. Of particular relevance to the current report is that the plan outlines priority mental health targets for young people aged 12 to 17 years and for young adults aged 18 to 25 years. These targets are centred around the need to promote emotional resilience, enhance protective factors and reduce risk factors for mental health problems among young people. In particular, the action plan emphasises the need to reduce the incidence and prevalence of specific mental health problems including depression, deliberate self-harm and suicide.

The Queensland Mental Health Plan (Queensland Health, 1994) and the Ten Year Mental Health Strategy for Queensland (Queensland Health, 1996) outline a number of priorities for addressing mental health throughout Queensland. The Plan and the Strategy outline several priority groups including children and young people. The documents highlight the need for mental health services to be developed to target and accommodate the specific needs of young people according to their age, developmental stage, and social and cultural context.

1.2 THE QUEENSLAND YOUNG PEOPLE'S MENTAL HEALTH SURVEY

1.2.1 OVERVIEW

Increased awareness and concern about perceived high levels of mental health problems among young Australians has led to the implementation of a profusion of mental health promotion and suicide prevention initiatives throughout Australia. Unfortunately, there is at present inadequate research data available to assist in the design or evaluation of such interventions, particularly among young people who are not at school or university. The Queensland Young People's Mental Health Survey was a cross-sectional survey of a random sample of over 3,000 people aged 15 to 24 years from throughout the State.

1.2.2 RATIONALE, AIMS AND INNOVATIONS

The study provides the first estimates of the prevalence of key mental health outcomes including depression, suicide attempts, deliberate self-harm and suicidal ideation among a representative sample of Queensland young people aged 15 to 24 years. One particular strength of the survey is that it includes the age group 18 to 24 years (young adults), who traditionally have been underrepresented in young people's mental health surveys. Furthermore, Rickwood and d'Espaignet (1996) noted that Australian studies have investigated young people's mental health among school students, university students, unemployed young people and clinical samples but rarely among broader population-based samples of young people. The lack of empirical data available indicates that there is scope to take this understanding further, particularly in the Australian context.

Apart from providing the most representative baseline data available concerning young Queenslanders' mental health, the survey was also designed to measure the risk and protective factors for depression. The primary application of this information was the development of a series of evidenced-based recommendations for mental health promotion and prevention and early intervention initiates for young people. The inclusion of protective factors is an innovative component of the study, which redirects our attention toward the development of more positive psychosocial environments for young people. Briefly, protective factors refer to those factors that interrupt the pathway to negative outcomes. The notion of protective factors is described in more depth in chapter 7 of the report. Furthermore, the survey explored young people's help-seeking behaviour, service utilisation and perceptions of barriers to service utilisation. These domains provide valuable information to guide the future development of not only mental health services but also other sectoral activities and services that may impact on, or contribute to, young people's mental health.

The picture of young people's mental health and well-being provided by the Queensland Young People's Mental Health Survey is compatible with the key research questions regarding young people, which are outlined in the Mental Health Promotion and Prevention National Action Plan (Commonwealth Department of Health and Aged Care, 1999). In particular, the survey can contribute to our knowledge in regard to the risk factors for the onset of depression.

1.2.3 LIMITATIONS AND CAUTIONS

There are several limitations and reasons to be cautious in the interpretation of the numerous and often sensitive findings that have arisen from the study. First, the necessary limitations of a cross-sectional, brief quantitative pen-and-paper survey should be considered in the interpretations of the findings. A 'snapshot' survey such as this can only report associations between variables (such as depression) and nominated potential risk factors (such as distress due to problems with parents). Statements of causality would be totally inappropriate, in that while there may be an association between depression and problems with parents in the example, there is no evidence in this study to indicate that the problems with parents preceded the depression. It purely suggests that at the particular point in time that the survey was completed, both states were observed. Stronger study designs involving follow-up of young people over time would be needed to ascribe causality. Hence, the reported results may be interpreted as suggestive of potentially important relationships that need further substantiation in more focused, more rigorously designed studies.

Other limitations of a cross-sectional pen-and-paper survey include the lack of quality control over the information being collected. Such surveys depend on all respondents similarly comprehending the questions being put to them, which may not necessarily be true as some respondents may have more difficulty than others in this regard for a variety of reasons. Differential recall or classification of life experiences, if more prevalent in one subgroup of the study population, may lead to over- or under-statement of the strength of the associations being reported. There is no way of assessing the extent to which this may have occurred in this survey, but it was hopefully minimised through piloting of the questionnaire prior to its implementation.

Second, although the sample size was large overall, there were several points at which limited data were available for a meaningful analysis. This is because relatively complicated relationships were being explored, particularly at the point of considering potential protective factors. These latter analyses effectively considered quite small subgroups of the population. The survey was designed to be large enough to detect quite small differences in percentage points of responses at the level of any individual risk factor, but was not designed to necessarily be powerful enough to detect such differences within smaller subgroups of the population. Reporting and interpretation were therefore based on a combination of statistical significance of associations (where the issue of power was irrelevant), and on strength of the associations (where power may have been an issue in statistically non-significant associations).

Third, the analytical approach chose to consider associations between depression and the list of potential explanatory factors in a classical linear regression-modelling framework. There was no attempt in this analysis to test or incorporate the complicated path of associations between depression, and the postulated risk factors and protective factors. Hence, the model fitted, while it explains a substantial proportion of the variation in depression, cannot be considered a predictive model. There is still a substantial amount of unexplained variation in depression that needs to be accounted for, and this might be through the postulation of more complex models of association, or perhaps more likely given the complexity, by variables as yet unmeasured in this study.

Finally, the approach of identifying risk and protective factors is inherently reductionist by nature, whereas in truth, mental health is complex, multifaceted and associated with a range of individual, familial, social, community and cultural factors. As stated above, the identification of risk and protective factors is useful for the subsequent development of prevention and early intervention strategies, yet it is difficult to balance the utility of reductionism with the complex reality. This limitation is heightened to a caution in the context of young people's mental health. Specifically, research has suggested that the oversimplification of the pathways to poor mental health outcomes for young people may increase distress. In an attempt to counterbalance this caution it is important to recognise that for every young person who experiences a risk factor, and the subsequent negative mental health outcome, there are also many young people who experience the risk factor and do not experience the negative outcome. This concept is inherently relevant to the notion of protective factors, which refer to those factors that interrupt the pathway to the negative outcome. Hence, this is the rationale for the inclusion of potential protective factors and the focus on positive environments in the Queensland Young People's Mental Health Survey.

2. Survey Method and Sample

2.1 TARGET POPULATION AND STUDY DESIGN

The target population for the study was 15 to 24 year olds living in Queensland, Australia. Fifteen to 24 year olds account for almost 16% (474,094 individuals) of Queensland's total population. The study was designed as a cross-sectional household survey, which used telephone recruitment followed by an anonymous self-report postal questionnaire. Telephone follow-up was used to encourage the return of the questionnaire.

A three stage sampling procedure was employed. First, postcodes (geographical areas) were selected and collated into three strata. The strata were defined by the proportion of 15 to 24 year olds living in a particular postcode (low, medium or high). The reason for this stratification was to over-sample from areas with high proportions of 15 to 24 year olds in order to decrease the number of telephone calls required to recruit an eligible participant. At the second stage of sampling, households were randomly selected from within each of the three strata. Finally, one young person was randomly selected per household.

This sampling procedure was designed so as to achieve the most random sample of the population possible, while managing to keep both the recruitment costs and the length of time for data collection to a minimum.

2.2 PARTICIPATION RATE

A total of 78,108 telephone calls were made to 35,509 households during the study. Overall, 12.9% (N=4,594) of households were determined to be eligible for the study. About 2% of the telephone numbers did not connect to a private residence and 9.0% of telephone numbers were disconnected. Overall, more than two thirds (69.0%) of contacted households did not have a 15 to 24 year old resident. Eligibility of 7.0% of the households was not determined, the main reason being that no contact was made (3.9%), while 2.0% of telephone numbers were connected to answering machines or facsimile lines. One percent of telephone contacts resulted in an exchange with hostile respondents from whom no information could be elicited.

Of the 4,594 eligible households that were contacted, a returned completed questionnaire was received from 3,092 young people, resulting in an overall participation rate of 67.3%. Of the 3,092 returned questionnaires, 10 were missing the age of the respondent and as a result could not be included in the sample. Young people who did not participate were asked for their age and sex for comparison purposes. The participation rate for males (64.9%) was significantly lower than for females (77.1%) ($\chi^2 = 78.74$, df = 1, $p < 0.001$). Several research studies have found that females are more likely to participate than males in psychosocial surveys (Dengler, Roberts and Rushton, 1997; Boyle, Offord, Campbell, Catlin, Goering, Lin and Racine, 1996; Cottler, Zipp, Robbins and Spitznagel, 1987). Also, participants (Mean = 18.55 years; SD = 2.77) tended to be younger than non-participants (Mean = 18.82 years; SD = 2.78; $t_{0.546} = -1.947$; $p = 0.052$).

2.3 THE QUESTIONNAIRE

The questionnaire contained five sections. Section 1 was comprised of several demographic and social questions. Section 2 contained questions about issues that may distress young people, their help-seeking behaviours and barriers to service utilisation. Section 3 included several psychosocial scales: a version of the sliding person test for self-actualisation (Karmos, 1979; Rogers and Kelly, 1989), a measure of a person's locus of control (Bugaighis and Schumm, 1983), the Centre for Epidemiological Studies Depression Scale (CES-D) (Radloff, 1977; Roberts, Lewinsohn and Seeley, 1991), a problem-solving inventory (Heppner and Petersen, 1982), the hopelessness/hopefulness sub-scale from the Mental Adjustment to Cancer Scale

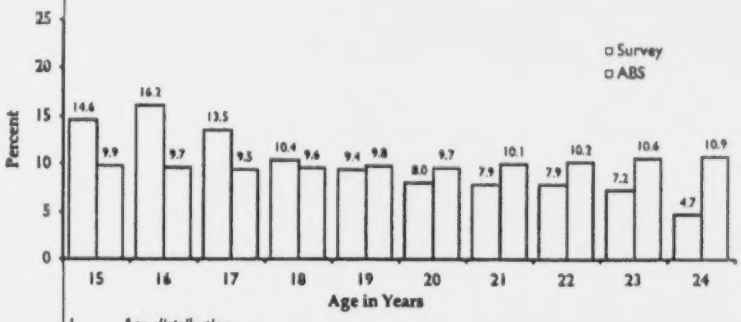
(Kelly, 1996) and two sub-scales (aggression and property damage) of the Delinquency Index (Gold, 1970; Cubis, 1990). Section 4 included questions about general health and several health risk behaviours. Section 4 also asked about deliberate self-harm and suicidal behaviour. The final section of the questionnaire included the short version of the Eysenck Personality Inventory (EPI) (Eysenck and Eysenck, 1975; Duncan-Jones, 1983) and also measured young people's participation in a variety of leisure activities.

DESCRIPTION OF THE SAMPLE

The characteristics of the survey sample are described below.

2.4.1 AGE

Figure 2.1 shows the age distribution for both the survey sample and 1996 ABS census data for Queensland (ABS, 1998b).



Age distribution

The survey sample had an average age of 18.55 years, which is almost one year younger than the average age of the Queensland population of 15 to 24 year olds, which is 19.46 years. While the sample includes a fair representation from each age, young people aged 15 to 17 have been over-sampled compared with the Queensland population, while 20 to 24 year olds have been under-sampled.

Within this report, participants have been categorised into two age groups: 15 to 17 year olds and 18 to 24 year olds. This division takes into account the age at which the majority of young Queenslanders complete secondary school education and the concomitant social and developmental factors that are associated with this transition. Moreover, this grouping is consistent with societal recognition of adulthood. Furthermore, this age distinction allows for consideration of differences associated with the implementation of mental health promotion strategies for 15 to 17 year olds versus 18 to 24 year olds. Most age-based analyses contained within this report are based upon a comparison of these two age categories.

2.4.2 GENDER

Table 2.1 shows the gender distribution of the survey sample and the comparative ABS census data for 15 to 24 year olds (ABS, 1998b).

Table 2.1 *Gender distribution of the survey sample and Queensland population of 15 to 24 year olds*

	Survey Sample			ABS		
Gender:	15-17 yrs % (N)	18-24 yrs % (N)	Total % (N)	15-17 yrs % (N)	18-24 yrs % (N)	Total % (N)
Males	20.7 (637)	23.8 (735)	44.5 (1372)	14.9 (73287)	35.8 (175600)	50.7 (248887)
Females	23.7 (731)	31.8 (979)	55.5 (1710)	14.1 (69330)	35.2 (172875)	49.3 (242205)
Total	44.4 (1368)	55.6 (1714)	100.0 (3082)	29.0 (142617)	71.0 (348475)	100.0 (491092)

Table 2.1 reveals that the ratio of males to females (0.80:1) is lower for the survey sample than for the ABS data (1.02:1). This observation is accounted for by the participation bias in the study outlined above which showed that males were less likely than females to participate in the survey.

2.4.3 ABORIGINAL OR TORRES STRAIT ISLANDER BACKGROUND

The proportion of Indigenous young people in the sample is shown in Table 2.2.

Table 2.2 *Aboriginal or Torres Strait Islander background*

	Survey Sample		ABS	Survey Sample Males		Survey Sample Females	
	N	%	%	15-17 yrs %	18-24 yrs %	15-17 yrs %	18-24 yrs %
Indigenous	69	2.3	3.7	2.1	2.3	2.1	2.5

The ABS census data show that 3.7% of the Queensland population of 15 to 24 year olds are from Aboriginal or Torres Strait Islander backgrounds compared with 2.3% of the young people in the study sample. Therefore, participants from an Indigenous background are under-represented in the sample compared with the Queensland population. This finding may reflect the sampling procedure since only those young people living in a household with a telephone could be reached for participation. ABS data show that Aboriginal and Torres Strait Islander people are more likely to live in remote communities, which in turn are less likely to have a telephone connected.

2.4.4 CULTURAL DIVERSITY

Table 2.3 shows the proportion of young people from non-English speaking backgrounds and the proportion of young people who were not born in Australia.

Table 2.3 Cultural diversity

Cultural Diversity:	Entire Sample		Males		Females	
	N	%	15-17 yrs %	18-24 yrs %	15-17 yrs %	18-24 yrs %
Language Spoken at Home						
Non-English	100	3.3	4.0	4.0	2.3	3.0
English	2942	96.3	96.0	96.0	97.7	97.0
Country of Birth						
Not Australia	327	10.6	10.4	11.3	8.2	12.1
Australia	2745	89.4	89.6	88.7	91.8	87.9

Young people from culturally diverse backgrounds were under-represented in the sample. Specifically, ABS census data show that 6.8% of Queenslanders aged 15 to 24 years are from non-English speaking backgrounds and 13.3% of young Queenslanders were born in a country other than Australia.

2.4.5 GEOGRAPHICAL LOCATION

Table 2.4 shows the proportion of the survey sample that lived in various regional localities.

Table 2.4 Geographical areas

Geographical Area:	Entire Sample		Males		Females	
	N	%	15-17 yrs %	18-24 yrs %	15-17 yrs %	18-24 yrs %
In a Capital City	925	30.7	24.4	34.1	27.6	34.6
In Another City	1109	36.8	39.7	35.5	35.7	36.9
In a Country Town	692	23.1	27.0	21.7	25.1	19.8
On a Property or Farm	283	9.4	8.8	8.7	11.6	8.7

A significantly greater proportion of 18 to 24 year olds lived in a capital city than did 15 to 17 year olds, of whom a greater proportion resided in a rural location (χ^2_{03} = 27.8; $p < 0.001$). ABS statistics show almost half of Queensland's young people live in Brisbane and surrounding suburbs (48.7%), approximately 30% live in other cities, with only 20% collectively living in country towns or on rural properties. Therefore, the survey sample is more rural than the Queensland population of 15 to 24 year olds. While more than 30% of the survey sample live in country towns or on rural properties and farms, the ABS census data show only 21.3% of Queensland's young people living outside of urban areas.

2.4.6 PARENTAL DIVORCE

Table 2.5 shows the proportion of survey participants whose parents had divorced.

Table 2.5 Parental divorce

Parental Divorce:	Entire Sample		Males		Females	
	N	%	15-17 yrs %	18-24 yrs %	15-17 yrs %	18-24 yrs %
Yes	622	20.4	20.3	19.2	18.4	21.0

Approximately 20% of participants reported that their parents were divorced.

2.4.7 MARITAL STATUS

Table 2.6 shows the marital status for the survey sample.

Table 2.6 Marital status

Marital Status:	Entire Sample		Males		Females	
			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Married	120	4.0	0.3	2.6	0.1	10.1
Divorced	29	1.0	0.5	1.2	0.8	1.1
De facto	189	6.2	0.2	5.8	1.0	14.4
Single	2689	88.7	98.9	90.4	97.6	74.2
Widowed	6	0.2	0.2	0.0	0.4	0.2

A significantly greater proportion of females than males in the sample were married ($\chi^2_{(1)} = 36.5$; $p < 0.001$), or in de facto relationships ($\chi^2_{(1)} = 38.1$; $p < 0.001$). The vast majority of young people in the survey sample were single. ABS census data report that 6% of the Queensland population of 15 to 24 year olds are married.
The proportion of the sample who were married was less than this, which in part may be due to younger people, who are less likely to be married, being over-sampled in the survey compared with the older age group.

2.4.8 LIVING ARRANGEMENTS

The living arrangements of participants in the survey were assessed by the question "Who do you usually live with?" and asking participants to tick as many of a list of potential co-habitants as applied. Living arrangements are displayed in Table 2.7.

Table 2.7 Living arrangements

Living Arrangements:	Entire Sample		Males		Females	
			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
With parent(s)	2393	77.7	96.5	71.0	96.3	56.4
With spouse/partner	348	11.3	0.6	9.9	1.6	26.5
In a share-house	224	7.3	1.3	11.7	1.2	12.4
With relatives (not parents)	74	2.4	0.2	3.3	0.4	4.7
At an educational institution	7	0.2	0.3	0.1	0.1	0.3
Other	56	1.8	1.3	1.4	1.4	2.9

Note: The totals do not sum to 100% as the categories displayed are composites and some participants may be included in more than one category.

Most participants lived with their parent(s). There was a significant sex difference: a higher proportion of males lived with their parent(s) than did females ($\chi^2_{(1)} = 38.6$; $p < 0.001$). The second largest group was living with a partner or spouse, with the third most common living arrangement being in a share-house situation with friends or flatmates.

2.4.9 YOUNG FAMILIES

Table 2.8 shows the proportion of the survey sample that reported having children of their own.

Table 2.8 Young parents

	Entire Sample		Males		Females	
Do you have any children?			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Yes	173	5.6	0.0	4.5	1.0	13.6

A greater proportion of females than males had children of their own ($\chi^2_{(1)} = 45.6$; $p < 0.001$).

Table 2.9 shows the number of children and the number of 15 to 24 year old parents who reside with their children.

Table 2.9 Characteristics of young families

	Entire Sample		Males		Females	
Family Characteristics:			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Number of children:						
None	2875	94.4	100.0	95.5	99.0	86.4
1	110	3.6	0.0	3.6	0.8	8.0
2	51	1.7	0.0	0.8	0.1	4.5
3	9	0.3	0.0	0.1	0.0	0.8
Do your children live with you?						
No children	2875	94.4	100.0	95.5	99.0	86.4
Yes	151	4.9	0.0	2.2	1.0	13.2
No	19	0.7	0.0	2.3	0.0	0.2

The results show that most 15 to 24 year old parents in the survey sample had only one child, with just over one third of the parents having two or three. Of the survey participants who were parents, almost all lived with their children.

2.4.10 EDUCATION

The proportion of survey participants who were still at school and who had left school are presented in Table 2.10. Young people who had left school were asked whether or not they had participated in any education after school.

Table 2.10 Educational status

	Entire Sample		Males		Females	
Educational Status:			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Still at school	1030	33.7	71.1	3.2	72.9	2.7
No education after school	537	17.5	13.7	24.0	9.0	21.5
Doing a TAFE course	284	9.3	6.2	12.2	5.9	11.6
Finished a TAFE course	408	13.3	2.4	22.4	1.6	22.4
Doing a University degree	456	14.9	4.4	20.7	7.7	22.7
Finished a University degree	175	5.7	0.2	9.5	0.0	10.8

Results showed that approximately 20% of the sample reported having had no post-school education. A greater proportion of males compared with females reported that

they had not continued with education after school ($\chi^2_{10} = 10.3; p < 0.01$). Of the participants in the survey who had left school, more than two thirds were participating in, or had completed some form of, further education. More than one third of the participants who had finished school were currently enrolled in, or had completed, a university degree.

2.4.11 EMPLOYMENT

All survey participants were asked about their employment status. The results of this question are presented in Table 2.11.

Table 2.11 Employment status

	Entire Sample		Males		Females	
Employment Status:			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Employed	1895	62.1	47.0	76.3	53.0	67.9
Unemployed	1157	37.9	53.0	23.7	47.0	32.1

Unemployed included both part-time and full-time students who did not currently have a job.

Table 2.12 shows the type of employment that young people reported being involved in namely, full-time, part-time, casual or self-employed.

Table 2.12 Employment type

	Entire Sample		Males		Females	
Employment Type:			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Unemployed	1157	37.9	53.0	23.7	47.0	32.1
Full-time	693	22.7	7.9	46.3	12.6	29.8
Part-time	331	10.8	11.1	8.2	4.8	11.4
Casual	809	26.5	27.2	20.2	35.0	24.4
Self-employed	50	1.7	1.0	3.7	0.6	1.3

In the Queensland population of 15 to 24 year olds, 57.1% of young people are employed in full-time or part-time work regardless of whether they are a student (ABS, 1998b). This figure is comparable to the 62.1% of young people in the study who were in full-time, part-time, casual or self-employed work.

2.5 SUMMARY

It may be reasonably concluded that, according to these demographic characteristics, the survey sample provides a good representation of 15 to 24 year old Queenslanders. To be cautious, the sample does however over-represent young people in the 15 to 17 year old age group and females. For this reason, statistical analyses were conducted after stratifying by age and gender, or after controlling for age. Furthermore, the sample under-represents young people from Indigenous backgrounds and young people from culturally diverse backgrounds.

3. Mental Health

The majority of young people successfully negotiate the physiological and maturational changes and the various psychosocial transitions that occur during the progression from childhood to adulthood. Some of the important psychosocial transitions in the Australian context include finishing school, leaving home, the first experience of sexual intercourse, attaining a driver's licence, attaining the right to vote, reaching the legal age for drinking alcohol, joining full-time employment, developing long-term intimate relationships, and taking on financial independence. The upheaval often associated with these customary transitions and experiences may be compounded by the occurrence of adverse life events, which can have either short-term or long-term detrimental consequences for young people's mental health and well-being. At its worst, these adverse life events may contribute to feelings of depression or even suicidal thoughts and behaviour among young people.

It is generally agreed that depression among young people is common (NHMRC, 1997; Birmaher et al., 1996). However, the term depression has been used to refer to a broad range of feelings, cognitions, and behaviours of varying severity and duration, which in turn contributes to a difficulty associated with determining the prevalence of depression and in understanding the circumstances that may increase vulnerability to depression.

The NHMRC guidelines (1997) identified three principal categories of depression among young people. The first is depressive mood, which refers to sadness, unhappiness or blue feelings for an unspecified period of time and is estimated to affect two fifths of young people in the community during any six-month period. The second type of depression according to the guidelines is depressive syndrome, which refers to a combination of feelings such as loneliness, anxiety and worthlessness as well as depressed mood, and it is estimated that 5% of young people suffer from this category of depression at any time. Third, depressive disorder refers to standard clinical classifications, most commonly the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association, 1994) and the ICD-10 Classification of Mental and Behavioural Disorders (World Health Organization, 1993). The NHMRC guidelines stated that the point prevalence for major depressive disorder among young people in the community may be estimated between 0.7% and 3.4% (1.6% to 3.6% for females and 0.9% to 1.7% for males).

Several recent Australian studies have examined mental health problems, including depression, among young people. These studies have used various measures and conceptualisations of depression including all three categories identified by the NHMRC (1997). For example, the Australian Longitudinal Survey reported on the mental health of a sample of over 8,000 people aged between 16 and 24 years from throughout Australia (Rickwood and d'Espaignet, 1996). The 12-item General Health Questionnaire (GHQ-12) was used to measure minor psychiatric morbidity. While the GHQ-12 is not a specific measure of depression, its items aim to examine feelings of depression, anxiety and general psychological distress. One third of the sample reported some level of current minor psychiatric morbidity suggesting that young Australians experience significant levels of psychological distress. Females were more distressed than males at all ages with 41% of females being classified as mild or moderate cases of depression, compared with 26% of males (Rickwood and d'Espaignet, 1996).

The ABS report from the recent national survey entitled Mental Health and Well-being Profile of Adults (ABS, 1998a) used a modified version of the Composite International Diagnostic Interview to diagnose selected mental disorders. The findings from the study indicate that young adults aged 18 to 24 years have the highest rates of mental disorder and that generally the rates then decrease with increasing age. The report publishes figures for three disorders: anxiety disorders, affective disorders (depressive disorders) and substance use disorders. For females aged 18 to 24 years the approximate rates of disorder were 14% for anxiety disorders, 11% for depressive disorders and 11% for substance use disorders and for males aged 18 to 24 years the

approximate rates were 9% for anxiety disorders, 3% for depressive disorders and 22% for substance use disorders.

Recent studies have also estimated the prevalence rates of suicidal ideation and behaviour among young people. Suicidal ideation is thought to be very common. However, few studies have been conducted and existing work is generally concerned with clinical populations or students. A recent study of 1,699 Victorian high school students aged 15 to 16 years found that 5.1% of students had deliberately harmed themselves in the previous year and 0.2% had attempted to kill themselves (Patton et al., 1997). The Western Australian Child Health Survey, a study of a community sample of 12 to 16 year olds found somewhat higher rates of deliberate self-harm with 8% deliberately trying to hurt or kill themselves in the previous six months (Zubrick et al., 1995).

Older young people appear to have even higher rates of self-harm. Schweitzer, Klayich and McLean (1995) studied 1,678 undergraduate students (mean age: 21.9 years) in Brisbane, Queensland and found that 15% reported some suicidal behaviour during the previous year and 7% had attempted suicide. A large proportion of the students (61.5%) reported some suicidal ideation or behaviour during the previous year. In a recent survey of young people aged 15 to 24 years attending general medical practices in Western Australia, it was found that one fifth of young people reported having had a suicidal thought or impulse in the two weeks prior to the survey (McKelvey, Davies, Pfaff, Acres and Edwards, 1998). The Australian Bureau of Statistics causes of death figures for 1998 revealed that overall 446 deaths of 15 to 24 year olds were recorded as suicides in that year (N=364 males and N=82 females). For the most part the pattern of completed suicide among young people in Queensland has mirrored the pattern for Australian young people, although generally the Queensland rate for young males has been higher than the overall Australian rate for young males.

This chapter of the report presents data on several indices related to young people's mental health, including the participants' experience of adverse life events, the prevalence of depression and diagnosed mental illness and the prevalence of self-harming and suicidal behaviour. These figures provide valuable baseline data for the Queensland population of young people.

COMMON ADVERSE LIFE EVENTS

To gauge the issues that negatively affect young people, the participants were asked to indicate which out of a list of adverse life events had ever caused them unhappiness or distress. The adverse life events and the proportion of young males and females who indicated that they had ever experienced distress as the result of the life event are shown in Figures 3.1 and 3.2. The figures have been presented separately for the 15 to 17 year olds and the 18 to 24 year olds.

Figure 3.1 shows the percent of 15 to 17 year olds and Figure 3.2 shows the percent of 18 to 24 year olds, who reported that they had ever experienced unhappiness or distress as the result of the various adverse life events.

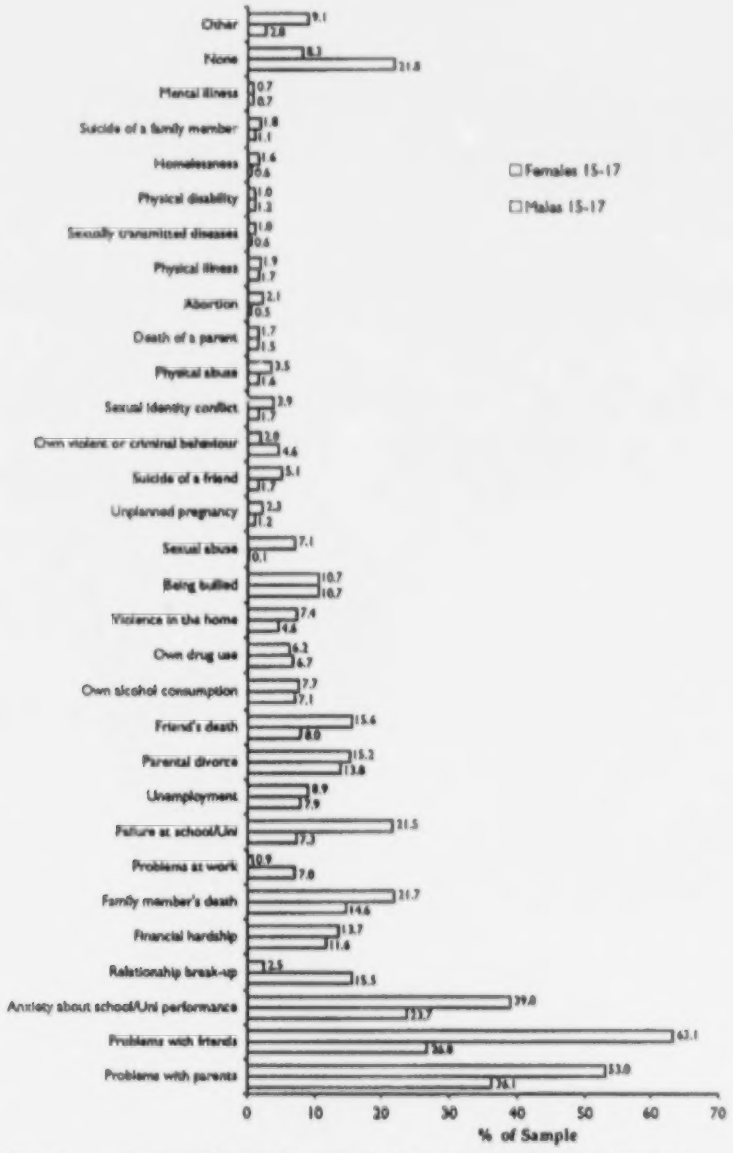
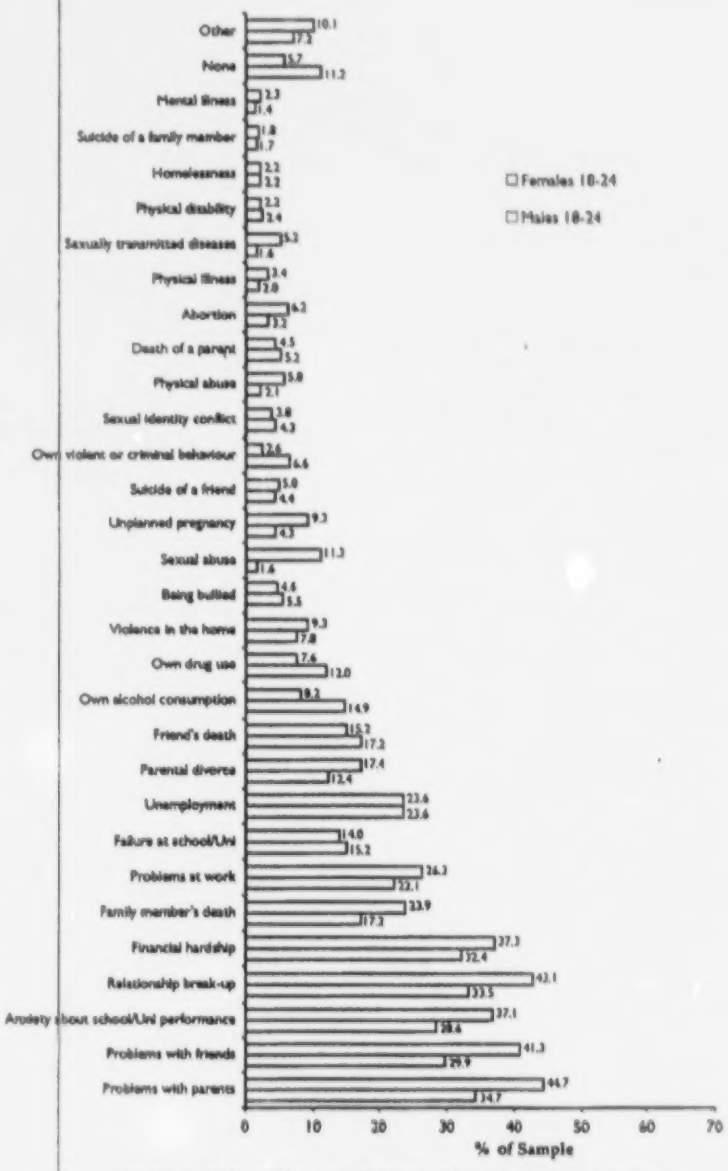


Figure 3.1 *Prevalence of adverse life events, 15-17 year olds – "Have you ever experienced unhappiness or distress as a result of any of the following issues?"*



2 *Prevalence of adverse life events, 18-24 year olds - "Have you ever experienced unhappiness or distress as a result of any of the following issues?"*

Poor interpersonal relationships (problems with parents, problems with friends and relationship break-ups) were among the most common causes of distress for young people. Clearly, these life events are issues that commonly distress a high proportion of young people and therefore their contribution to young people's mental health should not be underestimated. Nevertheless, it should be noted that experiencing some level of distress as the result of interpersonal conflict is to be expected and the majority of young people manage this distress without developing adverse mental health outcomes such as depressive symptomatology. On the other hand, common distressing life events such as interpersonal conflict have particular relevance for

primary prevention approaches to improving mental health since universal programs are more efficient if designed to target common rather than rare risk factors (Rose, 1992).

Other relatively common causes of distress were related to schooling, university or work life, financial hardship and unemployment. Death of a family member or friend, and parental divorce were also reported as common causes of distress. All other life events were reported as having resulted in distress by less than 10% of young people.

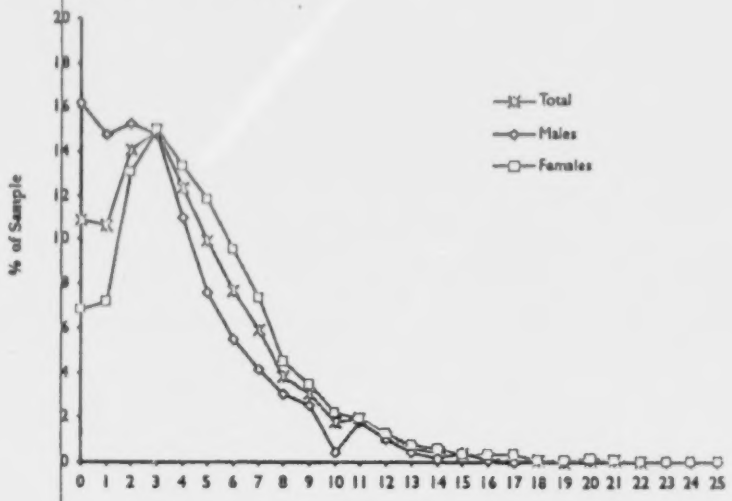
Analyses were used to investigate the effects of gender and adverse life events and the results are expressed as odds ratios and 95% confidence intervals. Age differences were not investigated as they may simply reflect the greater likelihood of such events occurring as one experiences life. The findings from the gender analyses showed that where differences between males and females did occur in the number of participants reporting distressing events, it was more often females who reported such events.

Females were more likely than males to report distress about parental divorce (OR = 1.28, 95%CI = 1.04 - 1.57), problems with parents (OR = 1.73, 95%CI = 1.49 - 2.01), problems with friends (OR = 2.62, 95%CI = 2.25 - 3.05) and relationship break-up (OR = 1.87, 95%CI = 1.60 - 2.19). Females were also more likely than males to report distress as the result of a family member's death (OR = 1.56, 95%CI = 1.30 - 1.88) and a friend's suicide (OR = 1.51, 95%CI = 1.04 - 2.20). Consistent with previous research, more females than males reported distress about sexual abuse (OR = 9.39, 95%CI = 5.41 - 16.32), and physical abuse (OR = 2.38, 95%CI = 1.52 - 3.70). Distress as the result of unplanned pregnancy, abortion and sexually transmitted diseases were also reported by more females than males (OR = 2.32, 95%CI = 1.59 - 3.40; OR = 2.36, 95%CI = 1.49 - 3.75; OR = 3.01, 95%CI = 1.70 - 5.36 respectively). Finally, more female participants reported anxiety about school/university performance than did male participants (OR = 1.74, 95%CI = 1.49 - 2.04) and more females reported that they were more likely to have been distressed due to financial hardship (OR = 1.24, 95%CI = 1.05 - 1.47) and due to problems at work (OR = 1.33, 95%CI = 1.10 - 1.61).

On the other hand, the findings showed that female participants were less likely than the male participants to report distress about their own alcohol use (OR =0.70, 95%CI = 0.54 - 0.89), their own drug use (OR = 0.70, 95%CI = 0.54 - 0.90) and their own violent and criminal behaviour (OR = 0.39, 95%CI = 0.26 - 0.58).

Approximately 11% of the total number of participants indicated that they had not experienced any of the listed adverse life events. More than two thirds of these participants were male, which was a statistically significant gender difference (OR = 0.37, 95%CI = 0.29 - 0.47). This finding does not reveal whether the male participants experienced less distress, or whether they were less likely to report distress. In addition, approximately 8% of the young people indicated that a reason, other than those provided as items in the questionnaire had been a cause of distress. Scrutiny of these open-ended answers indicated several additional common reasons for distress, including moving, illness of a close friend or family member, body appearance, and life in general.

The total number of adverse life events reported by the participants was also calculated, and is presented in Figure 3.3.



3 Number of adverse life events experienced

The total number of adverse life events experienced ranged from 0 to 25 with a mean of 4.1, a mode of 3 and a median of 3.

Differences in the number of distressing life events was examined by comparing participants on several demographic characteristics including gender, age, Indigenous background, cultural diversity and geographical location. T-tests showed that being female ($t_{(1,2999)} = -10.19$; $p < 0.001$) and being older ($t_{(1,2999)} = -8.16$; $p < 0.001$) were associated with a higher number of reported distressing life events. Geographical location was also associated with the number of distressing life events ($F_{(3,2996)} = 13.67$; $p < 0.001$). Post hoc analyses showed that living in the capital city or another city was associated with a higher rate of reported adverse life events than was living in a country town or on a rural property or farm. Indigenous backgrounds and non-English speaking backgrounds were not associated with higher rates of the adverse life events examined in this study. The reader is reminded that young people from remote circumstances and Indigenous young people are under-represented in the sample.

DEPRESSION

Depression and depressive symptomatology were assessed in the survey using three measures. The first measure involved a series of questions asking participants to report on the number of episodes of depression, if any, that they had experienced in their lifetime. An episode was defined as a period of feeling sad, blue or depressed that lasted for two weeks or more. The second measure was the Centre for Epidemiological Studies Depression Scale (CES-D), which is a measure of current depressive symptomatology. Example items include: "During the past week, I felt depressed" or "During the past week, I did not feel like eating, my appetite was poor." The respondents are required to answer on a 4 point scale (1 = rarely or none of the time, 2 = some or a little of the time, 3 = occasionally or a moderate amount of the time, and 4 = most or all of the time). The third measure of depression used was a self-report measure of whether or not the participant had ever been diagnosed with depression by a doctor.

Two alternative cut-offs were used to categorise cases of depression on the CES-D scale. The first was 16, which is the original cut-off (Radloff, 1977) and the second was 23, a more stringent categorisation, recommended by Husani and colleagues (1980).

Figure 3.4 shows the three measures of depression and the prevalence of each.

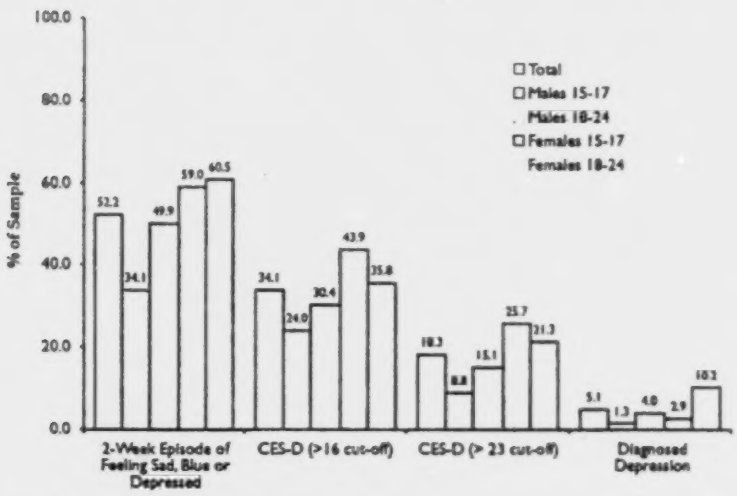


Figure 3.4 Prevalence of depression

Overall more than half of the young people reported having experienced at least one episode of feeling sad, blue or depressed for two weeks or more, at some time during their lifetime. Using the more stringent cut-off point on the CES-D scale, approximately 1 in 10 of the 15 to 17 year old males, 1 in 7 of the 18 to 24 year old males, 1 in 4 of the 15 to 17 year old females and 1 in 5 of the 18 to 24 year old females reported being currently depressed. Also of note is the finding that 1 in 10 of the 18 to 24 year old females reported that they had been diagnosed with depression by a doctor. However, caution is needed in the interpretation of this self-reported rate of diagnosed depression, since it can not be ascertained from the findings precisely what level or type of depression this represents.

Analyses were used to examine the associations between depression, gender and age for each of the four measures of depression reported in Figure 3.4. On all four measures, females reported significantly higher rates of depression than males (OR = 2.00, 95%CI = 1.73 - 2.31; OR = 1.72, 95%CI = 1.47 - 2.01; OR = 2.13, 95%CI = 1.74 - 2.60; OR = 2.64, 95%CI = 1.82 - 3.83 respectively). This pattern of results is consistent with past research studies that show that more young females than males report depressive symptomatology. Being older was significantly associated with higher rates of ever having experienced an episode of depression lasting for two weeks or more and with being diagnosed with depression by a doctor (OR = 1.42, 95%CI = 1.23 - 1.64; OR = 3.46, 95%CI = 2.32 - 5.15 respectively). It is noteworthy, that for both of the measures of current depressive symptomatology (that is the CES-D scale using the 16 cut-off and the CES-D scale using the 23 cut-off) the findings showed that the group reporting a significantly higher rate of depression was the 15 to 17 year old females.

Figure 3.5 shows the prevalence of the sample who reported experiencing the CES-D scale item "most or all of the time" during the week prior to the survey.

5 *Items from the CES-Depression Scale – "During the past week..."*

All of the negatively phrased items were reported by less than 10% of the sample of young people, with the exception of restless sleep during the past week, which was reported by 11.2% of young females.

3.3 OTHER PSYCHIATRIC CONDITIONS

Figure 3.6 shows the proportion of participants who reported having been diagnosed by a doctor with any of four psychiatric conditions (note: self-reported diagnosed depression was reported in Figure 3.4).

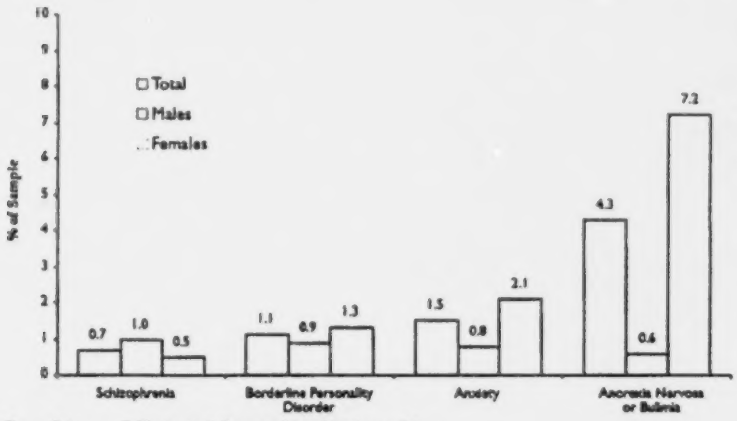


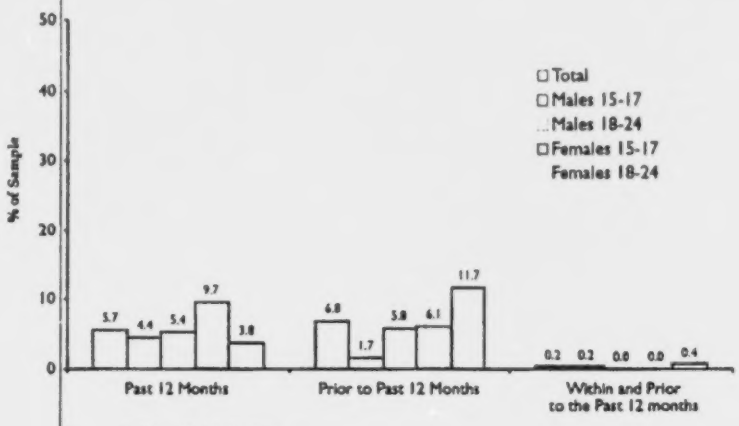
Figure 3.6 Self-reported diagnosed psychiatric conditions

It should be noted that these prevalence estimates are self-reported by young people and therefore may not be expected to concur with prevalence estimates from studies using diagnostic interviews. Nevertheless, the prevalence rates for schizophrenia are surprisingly similar to those reported in other studies. Specifically, 0.7% of the sample reported having been diagnosed with schizophrenia, which is consistent with population rates world-wide for this age group. The AIHW (Moon, Meyer and Grau, 1999) reports that the combined prevalence of anorexia nervosa and bulimia nervosa in Australia is estimated to be between 1% and 1.5%. In the current study the overall rate of reported eating disorders for males and females was 4.3%, which is more than twice that reported in the AIHW report. The report from the ABS Mental Health and Well-being Profile of Adults (ABS, 1998a) published prevalence figures for anxiety disorders: for females aged 18 to 24 years the rate of disorder was 14%, and for males aged 18 to 24 years the rate was 9%. The prevalence rates for anxiety reported by the ABS are substantially higher than the self-reported rate of diagnosis with anxiety as displayed in Figure 3.6. In the current study, anxiety and eating disorders were significantly more common among young females than among young males (OR = 2.36, 95%CI = 1.22 - 4.56; OR = 13.06, 95%CI = 6.36 - 26.80 respectively).

3.4 SELF-HARMING BEHAVIOUR, AND SUICIDAL THOUGHTS AND BEHAVIOUR

3.4.1 SELF-HARMING BEHAVIOUR

To assess self-harming, participants were asked if they had ever tried to deliberately hurt themselves. Figure 3.7 shows the proportion of participants who had self-harmed and in what time period the behaviour had occurred.



7 *Self-harming behaviour*

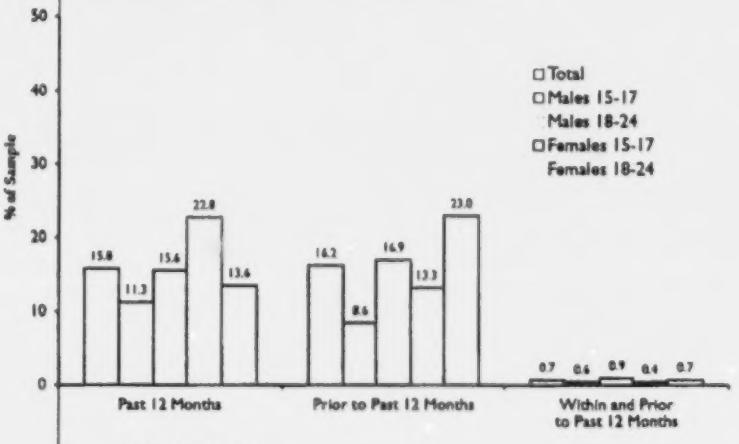
Results showed that 12.7% of the participants had self-harmed at some point in their lives.

Also, the analyses revealed that the 15 to 17 year old females were the most likely group to have self-harmed in the past 12 months, with approximately 1 in 10 young females in this age group having self-harmed during the 12 months prior to the survey.

Females were significantly more likely than males to have self-harmed prior to the past 12 months (OR = 2.42, 95%CI = 1.76 - 3.33). As expected, the older age group were more likely to have self-harmed at some time prior to the past 12 months than the younger age group (OR = 2.24, 95%CI = 1.64 - 3.06).

3.4.2 SUICIDAL THOUGHTS AND BEHAVIOUR

Past and current suicidal ideation and history of suicide attempts were assessed in the survey. Figure 3.8 shows the prevalence rates for past suicidal ideation which relate to the question "Have you ever thought about killing yourself?"



8 *Suicidal ideation history*

One in three (32.7%) young people reported having had suicidal thoughts at some time in their life.

Gender and age differences were investigated. The group most likely to have reported suicidal thoughts in the past 12 months were the 15 to 17 year old females. Females were more likely than males (OR = 1.49, 95%CI = 1.22 - 1.82) to report having experienced suicidal thoughts prior to the past 12 months. Similarly the older age group were more likely than the younger age group to report having experienced suicidal thoughts prior to the past 12 months (OR = 2.01, 95%CI = 1.64 - 2.47).

Rates of suicidal ideation in the past four weeks are displayed in Figure 3.9. The specific question was, "Think about the past 4 weeks: Which statement best applies to you?" The young people could respond either (i) I have not had any thoughts about killing myself (ii) I have had thoughts about killing myself, but I would not carry them out or (iii) I made a plan to kill myself.

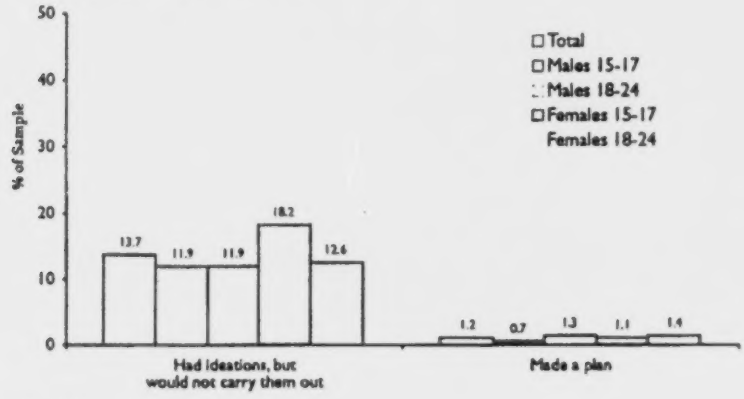
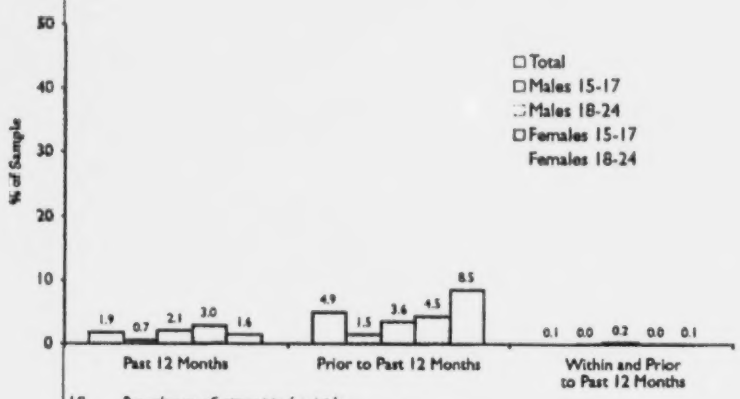


Figure 3.9 Current suicidal ideation

Current suicidal ideation was defined as thoughts about suicide that had occurred in the four weeks prior to completing the survey, and were divided into those participants who had thoughts but would not act upon them, and those participants whose thoughts had led to the formation of a plan. Figure 3.9 shows that in any four week period about 1% of the population of young people have made a plan to kill themselves and approximately 14% of young people reported some level of suicidal ideation during the past four weeks. This latter percentage relates to the response "... I have had thoughts about killing myself, but I would not carry them out" and therefore should be interpreted cautiously since it is apparent that the qualifying statement "would not carry them out" substantially increases the proportion of young people who report current suicidal ideation.

Gender and age differences were explored. Again, the group most at risk was the 15 to 17 year old females, with approximately 1 in 5 reporting current suicidal ideation.

Figure 3.10 shows the proportion of the survey sample that had reported attempting to kill themselves in terms of how recently this behaviour had occurred.



10 Prevalence of attempted suicide

Overall, 6.9% of the young people reported that they had ever tried to kill themselves, with 4.2% of males and 9.0% of females reporting ever having tried to kill themselves. Females were more likely than males to report ever having tried to kill themselves (OR = 2.09, 95%CI = 1.54 - 2.84).

Figure 3.10 shows a pattern consistent with deliberate self-harm, history of suicidal ideation, and current suicidal ideation; that is the group most likely to report having tried to kill themselves in the past 12 months was the 15 to 17 year old females.

Females were more likely than males to report having tried to kill themselves prior to the past 12 months (OR = 2.51, 95%CI = 1.71 - 3.69). As expected, the older age group were more likely than the younger age group to report having tried to kill themselves prior to the past 12 months (OR = 2.01, 95%CI = 1.40 - 2.91).

3.5 KEY FINDINGS

* *The most common problems that distress young people are problems with interpersonal relationships. In particular, problems with family and friends and relationship break-ups.*

* *Anxiety about school/university performance and problems at work are also common issues that distress young people.*

* *Financial hardship and unemployment are also common causes of distress.*

* *Females were twice as likely as males to report current depressive symptomatology. 1 in 8 young males reported current depressive symptomatology, whereas 1 in 4 young females reported current depressive symptomatology.*

* *Eating disorders among young females was the most commonly reported psychiatric condition other than depression.*

* *1 in 3 young people reported that they had had suicidal thoughts at some time during their lifetime.*

* *1% of young people reported that they had a current plan to kill themselves.*

* *13% of young people reported having deliberately hurt themselves at some time during their life.*

* *7% of young people reported having tried to kill themselves at some time during their life.*

* *Females were twice as likely as males to have ever tried to kill themselves.*

* *Across the several measures of depression, suicidal ideation, deliberate self-harm and suicidal behaviour the 15 to 17 year old females reported the highest levels of current or recent psychological morbidity.*

4. Health Risk Behaviours

People aged 15 to 24 years are said to engage in comparatively high levels of health risk behaviour. The adverse short and long-term consequences of unhealthy or risky behaviour provide the incentive to undertake research in this area. Some of the most important issues in this regard for young Australians include smoking, binge drinking, drink driving, use of illegal drugs including marijuana and engaging in unsafe sexual practices such as "serial monogamy" and unprotected sex. The teenage and young adult years are an appropriate time during which to intervene to prevent unhealthy behaviours in an attempt to prevent such behaviours from reaching a hazardous level during this age or indeed later in life.

This chapter reports on the prevalence of a range of health risk behaviours. Behaviours such as smoking, binge drinking, illicit drug use and sexual activity among 15 to 24 year olds are explored for gender and age differences. The principal rationale for measuring health risk behaviours in the current study was to investigate their association with negative mental health outcomes, rather than to provide a comprehensive investigation per se of these behaviours among young people. However, the prevalence data for these behaviours are presented in this chapter as they provide a basic description of these behaviours for young people.

4.1 TOBACCO USE

Participants were asked how many cigarettes they smoke per day. The findings are reported in Figure 4.1.

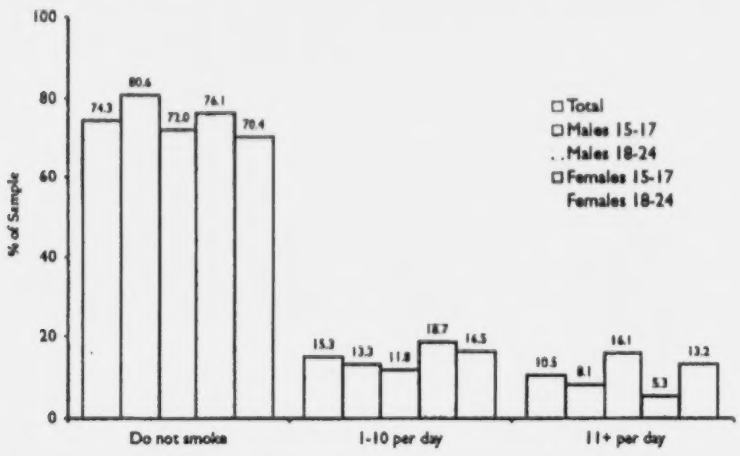


Figure 4.1 Prevalence of cigarette smoking

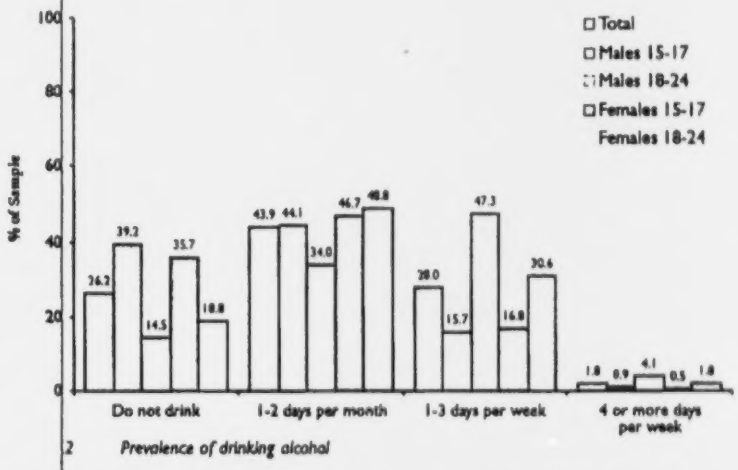
One in four (25.7%) young people reported that they currently smoked. The number of cigarettes per day participants reported smoking was also assessed. Heavy smokers (11+ cigarettes per day) accounted for 10.5% of the sample.

The rate of smokers to non-smokers was compared for gender and age. The older age group were more likely than the younger age group to smoke (OR = 0.70, 95%CI = 0.60 - 0.83). There was no significant difference between males and females overall concerning rates of smoking. However, females were more likely than males to be light smokers (1 to 10 per day) (OR = 1.42, 95%CI = 1.15 - 1.74) and males were more likely than females to be heavy smokers (11+ per day) (OR = 0.79, 95%CI = 0.62 - 0.99). In addition, a greater number of 18 to 24 year olds than 15 to 17 year old participants smoked more heavily (OR = 2.83, 95%CI = 2.16 - 3.70).

ALCOHOL USE

Three risk behaviours associated with alcohol consumption were assessed. Participants were asked to report on their frequency of drinking alcohol, the level of binge drinking they engaged in, and how often they had driven while under the influence of alcohol. Binge drinking in this context is classified as five or more standard drinks in a session. It is noted that there is difficulty with the term binge drinking. In some circumstances, the term is used to describe drinking occasions which may last for several days or more, whereas in other circumstances the term is used to describe one night of heavy drinking.

Figure 4.2 presents the results of the first of these behaviours, specifically, the prevalence of young people who reported drinking alcohol and how frequently.



2 *Prevalence of drinking alcohol*

Three quarters (73.7%) of the survey sample reported that they drink alcohol. Figure 4.2 shows that approximately 30% of the sample drank alcohol at least weekly, with about 2% reporting drinking on 4 or more days per week.

Drinkers were compared with non-drinkers in regard to gender and age. There was no difference between the prevalence rate of drinking for males and females. As expected, the older age group were more likely than the younger age group to report that they drink alcohol (OR = 2.88, 95%CI = 2.44 - 3.40).

The second drinking related behaviour examined in the survey was the level of binge drinking. To assess the level of binge drinking, participants who did drink were asked to report on how many days in the week prior to completing the survey they had consumed five or more standard drinks in a session. The findings are presented in Figure 4.3.

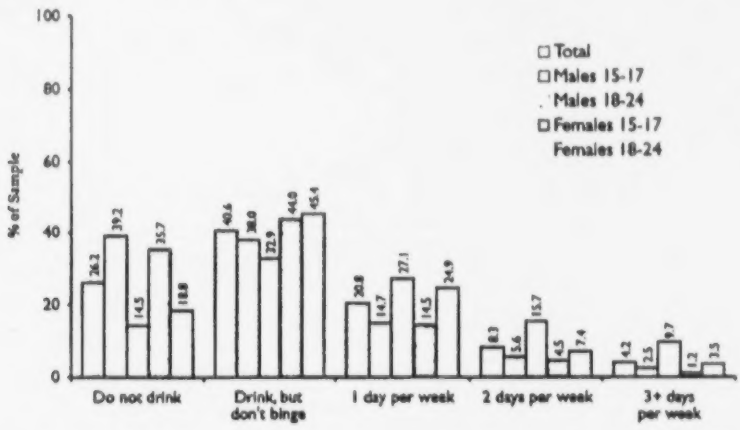


Figure 4.3 Prevalence of binge drinking

Of the total sample, 33% of young people reported binge drinking in the week prior to filling out the survey, with 12.5% reporting that they binge drink on two or more days per week. Males were significantly more likely than females to binge drink (OR = 2.01, 95%CI = 1.65 - 2.44). The older age group were more likely than the younger age group to binge drink (OR = 0.46, 95%CI = 0.37 - 0.58). Furthermore, 18 to 24 year old males are significantly more likely to binge drink than 18 to 24 year old females (OR = 0.59, 95%CI = 0.42 - 0.81).

The prevalence of drink driving was also measured in the questionnaire. Participants were asked to report how often in the 12 months prior to completing the survey they had driven while under the influence of alcohol. The results are presented in Figure 4.4.

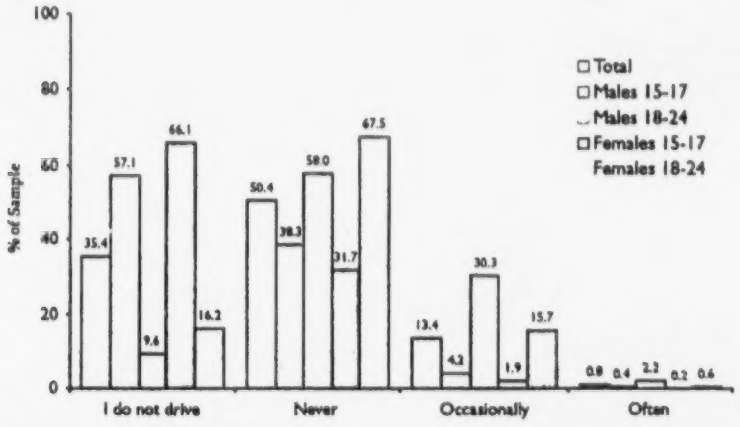


Figure 4.4 Prevalence of drink driving

The results show that approximately 14% of the sample reported having driven while under the influence of alcohol at some time in the 12 months prior to the survey. Of the participants who do drive, those who had driven while under the influence of alcohol within the past 12 months were more likely to be male (OR = 2.27, 95%CI = 1.81 - 2.83). The older age group were more likely than the younger age group to have driven at some time during the past 12 months while under the influence of alcohol (OR = 0.25, 95%CI = 0.18 - 0.34).

4.3 ILLICIT DRUG USE

Participants were asked about their use of a range of illicit drugs, including marijuana, sedatives, tranquillisers, hallucinogens, amphetamines, inhalants, cocaine, ecstasy and heroin. Participants were also asked whether they had ever used a needle to inject drugs for non-medical purposes. The results for marijuana use are presented in Figure 4.5.

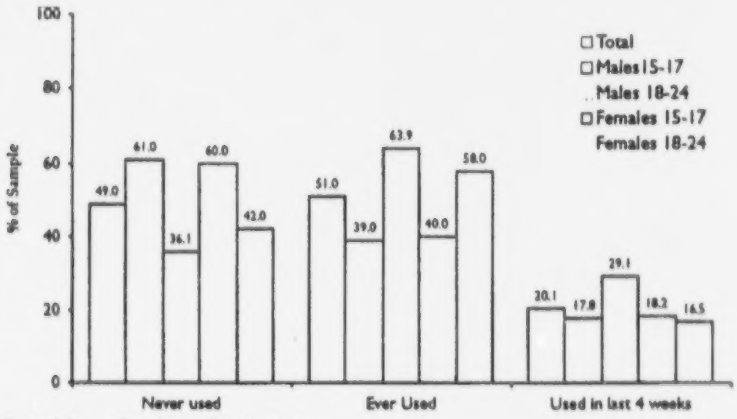


Figure 4.5 Prevalence of marijuana use

Half of the young people reported that they had tried marijuana at least once in their life and 1 in 5 young people reported having used marijuana in the four weeks prior to the survey. Of the participants who had tried marijuana, almost 40% (20% of total sample) had used the drug in the four weeks prior to filling in the questionnaire.

There was no difference between the proportion of males and females who had ever tried marijuana. The older age group were more likely than the younger age group to have ever tried marijuana (OR = 2.37, 95%CI = 2.05 - 2.74). The 18 to 24 year old males were the group most likely to have used marijuana in the past 4 weeks (OR = 1.91, 95%CI = 1.47 - 2.47).

Table 4.1 shows the prevalence of young people's use of the remaining eight types of illicit drugs that were measured in the survey.

Table 4.1 Prevalence of illicit drug use

	Entire Sample		Males		Females	
Type of Drug:			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Hallucinogens	404	13.3	7.5	22.3	8.9	14.1
Amphetamines	271	9.0	2.7	14.9	4.1	12.6
Sedatives	184	6.1	2.1	6.0	6.3	8.8
Tranquillisers	124	4.1	2.0	5.9	2.5	5.5
Ecstasy	103	3.4	0.8	6.1	1.2	5.0
Inhalants	102	3.4	2.9	5.0	3.6	2.4
Cocaine/crack	64	2.1	0.8	3.3	1.4	2.8
Heroin	57	1.9	0.5	3.1	1.4	2.3

Note: The total does not sum to 100% as participants were able to indicate more than one option.

The survey results show that only a minority of the sample had ever used any of these illicit drugs. Hallucinogens were the drugs most commonly used, followed by amphetamines and sedatives.

When gender and age groups are examined, the results indicate few differences between males and females in the pattern of drug taking, with the exception that more males than females have used hallucinogens (OR = 0.56, 95%CI = 0.44 - 0.73). Much more marked were the age differences, whereby a greater proportion of older respondents had tried each drug type than had younger respondents. The only exception to this pattern was in the use of inhalants, for which both age groups reported similar levels of use. Males aged 15 to 17 years were the least likely group to use sedatives (OR = 3.45, 95%CI = 1.99 - 5.99) and males aged 18 to 24 years were the most likely group to use hallucinogens (OR = 2.14, 95%CI = 1.34 - 3.42).

The last issue related to illicit drug use concerned the use of needles to inject drugs for non-medical purposes. The results are presented in Table 4.2.

Table 4.2 Prevalence of intravenous drug use

	Entire Sample		Males		Females	
Have you ever used a needle to inject drugs/shoot-up for non-medical purposes?			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Yes	93	3.0	1.6	4.7	1.9	3.6
No	2967	97.0	98.4	95.3	98.1	96.4

The overall prevalence of intravenous drug use was 3.0%. The gender and age analyses showed no overall relationship between the use of intravenous drugs and gender, but a greater proportion of 18 to 24 year olds had injected drugs than 15 to 17 year olds (OR = 2.37, 95%CI = 1.49 - 3.80).

4.4 MULTIPLE SEXUAL PARTNERS AND NON-USE OF CONDOMS

Participants were asked to report on four issues related to sexual behaviour: whether they had ever had sexual intercourse; the age at which they had had sexual intercourse for the first time; the number of sexual partners they had had in the 12 months prior to completing the survey; and whether a condom was used during the participant's most recent occasion of sexual intercourse.

The proportion of survey participants who had ever had sex is shown in Table 4.3.

Table 4.3 Prevalence of sexual activity

	Entire Sample		Males		Females	
Have you ever had sexual intercourse?			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Yes	1722	56.8	27.1	74.6	31.7	83.5
No	1310	43.2	72.9	25.4	68.3	16.5

More than half of the survey sample reported that they had experienced sexual intercourse.

Females were more likely to have had sex than males (OR = 1.69, 95%CI = 1.33 - 2.14). The 18 to 24 year olds were more likely to have had sex than the 15 to 17 year olds (OR = 11.17, 95%CI = 8.86 - 14.08). The average age at which participants first

had sex was 16.2 years, with a standard deviation of 2.1 years; there was no significant difference between male and female participants with regards to the age at which they first had sex.

The participants who had reported having had sex were also asked to report the number of sexual partners they had had in the 12 months prior to filling out the survey. These results are shown in Table 4.4.

Table 4.4 Number of sexual partners

	Sexually Active Sample		Males		Females	
How many sexual partners have you had in the past 12 months?	N	%	15-17 yrs %	18-24 yrs %	15-17 yrs %	18-24 yrs %
None	113	6.7	8.9	8.3	7.1	5.0
One	966	57.2	50.9	49.3	49.6	66.2
Two	301	17.8	23.4	18.1	21.7	15.2
Three or more (range 3 to 30)	309	18.3	16.8	24.3	21.7	13.5

Of the participants who had had sex, most had had only one sexual partner in the 12 months preceding the survey.

Males were more likely than females to report having three or more sexual partners in the 12 months prior to the survey (OR = 1.97, 95%CI = 1.48 - 2.62). The 18 to 24 year old females were less likely than the 15 to 17 year old females to have had three or more sexual partners in the previous 12 months whereas the 15 to 17 year old males were less likely than the 18 to 24 year old males to have had three or more partners during this time (OR = 0.38, 95%CI = 0.21 - 0.69).

Another sexual behaviour assessed in the survey was the use of condoms by participants during their most recent experience of sexual intercourse. These results are presented in Table 4.5.

Table 4.5 Condom use

	Sexually Active Sample		Males		Females	
Was a condom used last time you had sex?			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Yes	759	45.6	79.2	48.2	58.1	32.3
No	905	54.4	20.8	51.8	41.9	67.7

Overall, more than half of the participants who were sexually active reported that a condom was not used during their most recent occasion of sexual intercourse. Almost 70% of 18 to 24 year old females reported that a condom was not used during their most recent occasion of sexual intercourse.

Females were more likely than males to report that a condom was not used during their most recent sexual experience (OR = 1.97, 95%CI = 1.61 - 2.42). Older participants were more likely than younger participants to report that a condom was not used during their most recent sexual experience (OR = 3.22, 95%CI = 2.52 - 4.11).

4.5 KEY FINDINGS

* *1 in 4 young people reported that they were current cigarette smokers.*
* *Young males and young females were equally likely to report that they were current cigarette smokers.*
* *1 in 10 young people reported that they were currently heavy smokers (11+ per day).*
* *23% of the 15 to 17 year old males reported that they binge drink at least once a week and 20% of the 15 to 17 year old females reported that they binge drink at least once a week.*
* *Approximately half of the 18 to 24 year old males reported that they binge drink at least once a week and approximately 1 in 3 of the 18 to 24 year old females reported that they binge drink at least once a week.*
* *Males were twice as likely as females to report drink driving. 1 in 3 of the 18 to 24 year old males reported that they had driven while under the influence of alcohol at some time in the past 12 months, whereas only 1 in 6 of the 18 to 24 year old females reported this behaviour.*
* *Half of the 15 to 24 year olds reported that they had ever tried marijuana, with 1 in 5 reporting marijuana use in the past 4 weeks.*
* *3% of the young people reported that they had ever used a needle to inject drugs for non-medical purposes.*
* *1 in 5 of the young males reported having had three or more sexual partners in the past 12 months.*
* *54% of the sexually active young people reported that they did not use a condom during their most recent occasion of sexual intercourse.*
* *68% of the sexually active 18 to 24 year old females and 52% of the sexually active 18 to 24 year old males reported that they did not use a condom during their most recent occasion of sexual intercourse.*

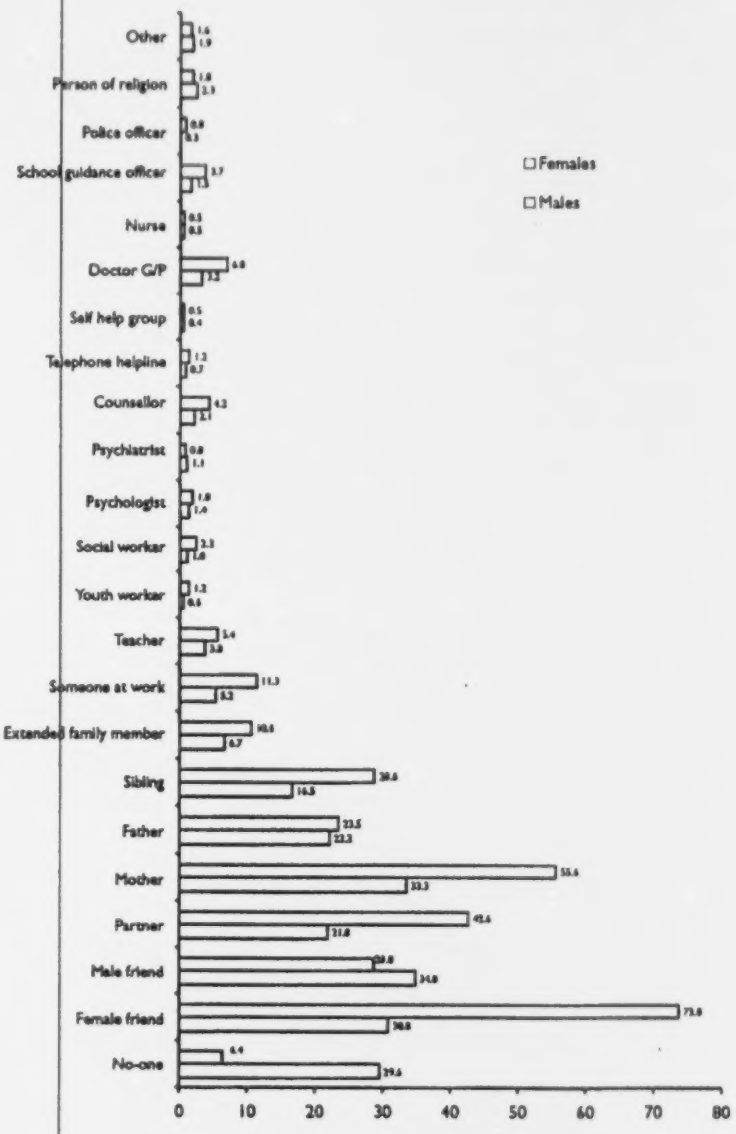
5. Help-Seeking and Service Utilisation

The lack of an adequate social support structure has been linked to the occurrence of poor mental and physical health (Wilkinson and Marmot, 1998). As outlined earlier, distress and depression are common problems for young people. However, research has also indicated that young people rarely seek help from mental health services (Whitaker et al., 1990; Sawyer et al., 1990). One reason suggested for this low rate of service utilisation among young people has been a low level of knowledge about mental health services and their purpose (Fotheringham and Sawyer, 1995). Another important aspect of young people's help-seeking is that most of their help-seeking takes place within their informal network structures rather than the formal service delivery structures (Rickwood and Braithwaite, 1994).

The principal purpose of this chapter is to describe the help-seeking behaviour of young people. The survey assessed both formal (e.g. youth workers, general practitioners, and psychologists) and informal (e.g. family and friends) sources of social support that the participant had used when faced with a distressing life event. In addition, the formal services the participants would be most likely to approach and the barriers (if any) that would prevent the participant from using such a service were investigated. The pathways of care following an episode of depression and suicidal behaviour were also explored.

5.1 WHO DO YOUNG PEOPLE TURN TO FOR HELP?

The first issue concerning help-seeking is the source of assistance. Participants were asked to indicate the people whom they had approached for help when they had felt unhappy or distressed in the 12 months prior to the survey. The results are presented in Figure 5.1.



1 *Help-seeking behaviour – "In the past 12 months when you have felt unhappy or distressed, who have you approached for help?"*

Figure 5.1 shows that young people are overwhelmingly more likely to approach family and friends for help when they are feeling distressed than to approach more formal sources of support such as mental health professionals. The most common source of help for females was a female friend and the most common source of help for the males was a male friend. In terms of differences in source of help according to gender, the pattern of significant differences shows that more females than males nominated help from 13 of the 26 categories, while more males than females nominated help from only one source, a male friend.

Consistent with what is commonly recognised as a concern for mental health promotion and prevention and early intervention was the finding that males were more likely than females to report that they do not seek help from anybody. When this finding is considered within the context of the prevalence of completed suicide among young Australian males, it becomes even more important to understand why young males may not seek help.

Figure 5.2 shows the total number of sources of help that young people had approached when unhappy or distressed during the 12 months prior to the survey.

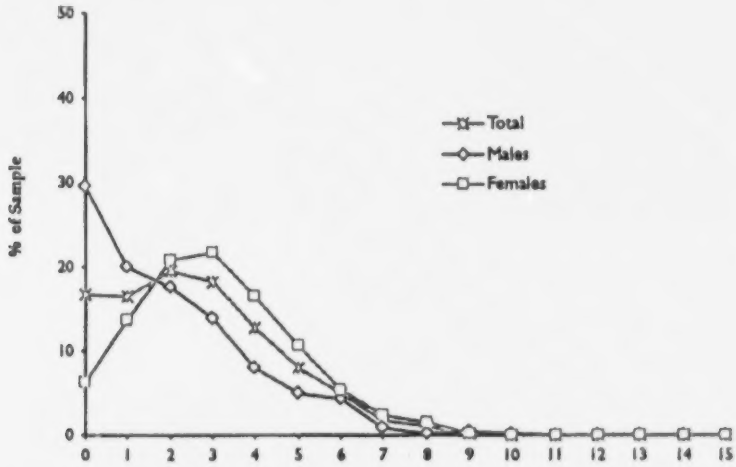


Figure 5.2 Number of sources of help approached in the past 12 months

The total number of sources of help ranged from 1 to 15, with a mean of 2.6, a mode of 2 and a median of 2. Two thirds of young people reported having sought help from between 1 and 4 sources.

5.2 PREFERRED SERVICE PROVIDER

The participants were asked to indicate which of eight services they would be most likely to use if they were unhappy or distressed at some time in the future.

Table 5.1 Preferred service provider if feeling distressed

	Entire Sample		Males		Females	
Preferred Service Provider:			15-17 yrs	18-24 yrs	15-17 yrs	18-24 yrs
	N	%	%	%	%	%
Counsellor	740	24.0	23.2	21.7	30.5	28.8
Doctor/GP	718	23.3	21.4	31.3	16.3	32.2
Telephone Help-Line	528	17.1	25.9	18.7	22.5	12.1
Youth Worker	327	10.6	19.3	8.1	17.1	5.5
Social Worker	172	5.6	4.4	6.5	6.0	7.1
Psychologist	135	4.4	1.6	6.9	2.9	7.0
Psychiatrist	88	2.9	1.5	3.7	2.7	4.2
Support/self-help Group	75	2.4	2.7	3.1	1.9	3.1

The results presented in Table 5.1 show that young people's preferred types of service when feeling distressed include a counsellor and a doctor/GP. Telephone help-lines and youth workers are also popular choices for young people. Analysis of gender differences showed that males were more likely than females to report that they would approach a telephone help-line when unhappy or distressed (OR = 1.35, 95%CI = 1.11 - 1.63). Similarly, males were more likely than females to report that they would approach a youth worker (OR = 1.31, 95%CI = 1.03 - 1.65). Females were more likely than males to report that they would approach a counsellor for help if they were feeling distressed (OR = 1.44, 95%CI = 1.21 - 1.72). Age difference analyses revealed that 18 to 24 year olds were more likely than 15 to 17 year olds to indicate that they would contact a doctor/GP (OR = 1.98, 95%CI = 1.66 - 2.37), a psychologist (OR = 3.03, 95%CI = 2.02 - 4.54) and a psychiatrist (OR = 1.77, 95%CI = 1.13 - 2.76). The 15 to 17 year old age group were more likely than 18 to 24 year olds to indicate that they would contact a telephone help-line (OR = 1.86, 95%CI = 1.54 - 2.26).

BARRIERS TO SERVICE UTILISATION

Participants were asked to indicate which factors would prevent them from accessing a service. Approximately one third (29.1%) of the young people reported that they would never use a service, regardless of the circumstances. More males (38.5%) than females (22.0%) reported that they would never use a service (OR = 2.26, 95%CI = 1.92 - 2.65). This finding suggests that some young people, and particularly males, do not and are not likely to access any support when they are distressed. Approximately one fifth (18.9%) of the young people indicated that nothing would stop them utilising a service if they felt unhappy or distressed.

The barriers to service utilisation are presented in Figure 5.3. The numbers do not sum to 100% as participants were able to indicate more than one option.

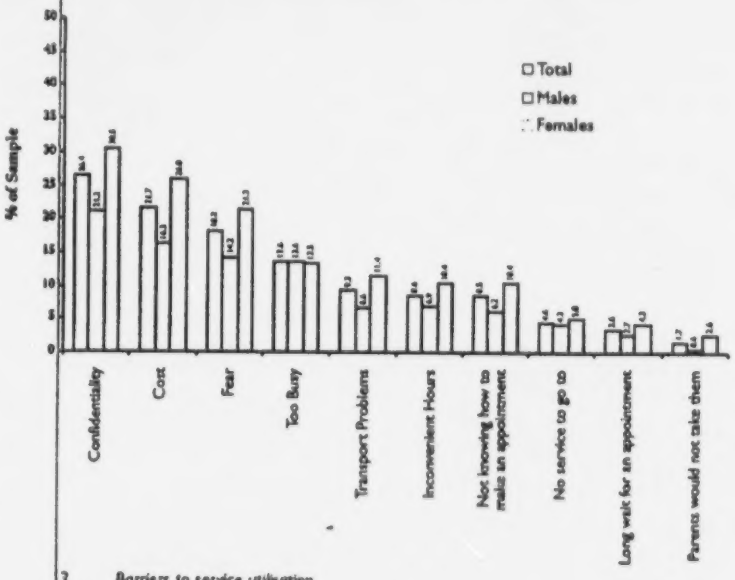


Figure 5.3 Barriers to service utilisation

The most common barrier to service utilisation for young people was concerns about confidentiality. The interpretation of this finding is not easy. There are very few documented cases in Australia where confidentiality has been broken; therefore young people's concern is a perceived concern rather than a reality. What does this concern

really mean? Could it be that young people are concerned about being observed seeking help, or perhaps an inherent mistrust of authority? The second most commonly reported barrier was cost. Fear of what the service would do and being too busy were also common reasons given by young people for not utilising services. All other barriers were indicated by less than 10% of young people.

Analyses were conducted to examine any differences for gender. There was a significant difference between males and females for eight of the ten barriers, with females being more likely than males to indicate that the particular issue was a barrier to them using mental health services. The two issues for which there was no gender difference were reporting that there was "no service to go to" and being "too busy to go" to a service.

It should be noted that 10% of the sample said that they would not use a service for some other reason than those listed as items in the questionnaire. The open ended responses to this "other" statement were coded and several additional barriers were identified, including that the young people perceived that they did not need help, that they do not like to talk about their problems, that the service provider would not be able to understand or help, that the young person would be too embarrassed or proud to seek help, and that they did not want to talk to a stranger about their problems.

5.4 FACTORS ASSOCIATED WITH NON-USE OF SERVICES

Although it was not a principal aim of the survey to explore the factors that contribute to non-use of services among young people, it is an important question given the low service utilisation, by young males in particular. Therefore, a post hoc exploration of some of the potential factors associated with non-use of services that were measured in the survey was conducted. These analyses were conducted to investigate which factors were associated with young people who indicated that they would never use a service. The list of potentially associated factors included a range of demographic factors: Indigenous status, language spoken at home, country of birth, sexual identity, marital status, locality of residence (i.e. rural/urban), early school leaving and educational status. Two personality factors were also explored: extroversion/introversion and neuroticism. Finally, the list of adverse life events shown in Figures 3.1 and 3.2 were included in the list of potentially associated factors. A series of multivariate logistic regression analyses, controlling for age and stratum, were used to investigate the associations between these factors and non-use of services. These analyses were conducted separately for males and females.

Briefly, the findings showed that young males who reported that they were heterosexual; who had never experienced distress due to physical abuse, problems with friends, a relationship break-up, or problems at work; and those reporting lower levels of neuroticism were more likely to indicate that they would never use a service. One interpretation of these findings may be that some of these factors are suggestive of traditional notions of masculinity. That is, those young males who appear to identify more strongly with these traditional concepts are also more likely to report that they would never use a formal service if they were feeling unhappy or distressed. Future studies of young people's mental health and service utilisation should include measures concerning cultural attitudes about traditional sex roles and notions.

The pattern for young females showed that those who had never experienced distress due to an unplanned pregnancy, a sexually transmitted disease, financial hardship or problems with friends were more likely to indicate that they would never use a service. Young females who reported that they had never been sexually abused were more likely to indicate that they would never use a service, than young females who reported that they had been sexually abused.

5.5 SERVICE UTILISATION FOR EPISODES OF DEPRESSION AND SUICIDAL BEHAVIOURS

A group of young people who are potentially at greater risk and therefore might have increased need to access mental health services are those who have experienced an episode of depression. The survey participants who had reported experiencing an episode of depression lasting for two weeks or more were asked to indicate which, if any, service they had accessed in response to the episode of depression. The findings are presented in Table 5.2.

Table 5.2 *Mental health service utilisation following an episode of depression lasting for two weeks or more*

	Depressed Sample		Males	Females
Service Provider:	**N**	**%**	**%**	**%**
Did not use a mental health service	1251	79.5	85.4	77.0
Counsellor	203	13.1	8.0	15.6
Psychologist	71	4.6	3.8	4.5
Psychiatrist	67	4.3	5.0	3.5
Telephone Help-Line	60	3.9	2.6	4.5
Support/self-help Group	21	1.4	0.8	1.6

Note: The total does not sum to 100% as participants were able to indicate more than one option.

Of the 1,673 participants who reported having experienced at least one episode of feeling sad, blue or depressed for two weeks or more, only 20% had sought help from a mental health service. The most commonly accessed service was a counsellor. Gender differences were investigated and the analysis showed that females were more likely than males to have accessed a mental health service following a two week episode of depression (OR = 1.68, 95%CI = 1.28 - 2.20). The only other significant gender difference was that females were more likely than males to report having visited a counsellor (OR = 2.06, 95%CI = 1.45 - 2.92).

Young people who reported that they had ever tried to kill themselves were asked whether they sought medical assistance and whether they talked to a mental health professional following their most recent suicide attempt. The findings are reported in Tables 5.3 and 5.4. Table 5.3 shows the proportion of young people who sought medical assistance following their most recent suicide attempt.

Table 5.3 *Seeking medical assistance following a suicide attempt*

	Suicide Attempt Sample		Males	Females
Medical Assistance:	**N**	**%**	**%**	**%**
Visited a medical facility				
Yes	63	29.2	18.5	28.1
No	153	70.8	81.5	71.9
Admitted to hospital				
Yes	42	19.5	11.8	18.5
No	174	80.5	88.2	81.5

Of those young people who had engaged in suicidal behaviours, approximately one third sought medical attention and one fifth were admitted to hospital. Results from an analysis of gender differences showed that there were no differences in the proportion of males and females who sought medical attention or were admitted to hospital following a suicide attempt.

The findings concerning mental health service utilisation following a suicide attempt are reported in Table 5.4.

Table 5.4 Mental health service utilisation following a suicide attempt

	Suicide Attempt Sample	
Mental Health Service Provider:	**N**	**%**
Did not receive mental health assistance	144	67.1
Counsellor	45	21.1
Psychiatrist	30	14.4
Psychologist	21	10.4
Telephone Help-Line	12	5.7
Support/self-help Group	2	0.8

Note: The total does not sum to 100% as participants were able to indicate more than one option.

More participants reported that they had spoken to a mental health professional following a suicide attempt (approximately 30%) than had reported seeking help from a mental health professional following an episode of depression lasting for two weeks or more (approximately 20% overall, see Table 5.2). Counsellors were the most likely mental health service to be used, followed by psychiatrists and then psychologists. Where cell sizes permitted, statistical analyses were conducted in order to investigate gender differences in mental health service utilisation following a suicide attempt. The findings showed no statistically significant differences between males and females in regard to mental health service utilisation following a suicide attempt. However, there was a meaningful trend that indicated that males were more likely than females to talk to a psychiatrist following a suicide attempt (OR = 2.20, 95%CI = 0.99 - 4.91; p = 0.07).

KEY FINDINGS

- *The vast majority of young people are most likely to approach family and friends for help when they are feeling unhappy or distressed.*
- *30% of young males reported that they do not seek help from anyone when they feel unhappy or distressed; whereas only 6% of young females reported that they do not seek help from anyone when they feel unhappy or distressed.*
- *One quarter of the young people reported that their preferred formal service would be a counsellor and one quarter reported that their preferred formal service would be a doctor/GP if they were feeling unhappy or distressed.*
- *39% of young males and 22% of young females indicated that they would never use a formal service when feeling unhappy or distressed. In other words, males were nearly twice as likely as females to indicate that they would never use a service.*
- *The findings suggest that there is a possibility that traditional notions of masculinity may be contributing to some young males' reluctance to approach services for help. This needs to be further investigated.*
- *The most common barrier to formal service utilisation was concerns about confidentiality.*
- *Cost and fear about what the service will do were also common barriers to service utilisation.*
- *1 in 5 young people reported that they had sought help from a mental health service provider when they had experienced a depressive episode of at least 2 weeks.*
- *71% of young people who attempted suicide did not receive medical assistance following a recent suicide attempt. There was no significant difference between the proportion of males and the proportion of females who did not receive medical assistance.*
- *67% of young people who had attempted suicide did not talk to a mental health professional following the attempt.*

6. Risk Factors for Depression

6.1 BACKGROUND

Over the past three decades, several studies have explored the risk factors for depression among young people and an array of potential contributing factors has been identified, for example being female, parental psychiatric problems (Schor, 1989), marital disharmony (Rutter, 1979), social disadvantage and homelessness (Masten et al., 1993; Rutter and Madge, 1976), academic performance (D'Arcy and Siddique, 1984), unemployment (Cubis, 1985; Ullah, Banks and Warr, 1985; Winefield, Tiggerman and Winefield, 1991), stressful life events (Aro, 1987), poor peer relationships (Richman, Stevenson and Grahams, 1982), sexual abuse (Bagley, Bolitho, and Bertrand, 1997; Garnefski and Diekstra, 1997; Fergusson, Horwood and Lynskey, 1996) and neuroticism (Henderson, Byrne and Duncan-Jones, 1981) have all been shown to be associated with depression.

The review by the NHMRC (1997) provides a useful framework for conceptualising the array of potential risk factors for depression among young people. The NHMRC identifies five "confirmed" risk factors, along with an extensive list of probable and possible risk factors requiring further investigation (NHMRC, 1997, pp. 6-7). Specifically, these factors are:

Confirmed

- Psychiatric conditions (such as anxiety, conduct disorder or substance abuse)
- Being older (15 to 17 years of age compared with 13 years of age)
- Being female
- Having a parent who suffers from depression
- Having a previous history of depression

Probable

- Having a close biological relative with depression
- Stressful life events - chronic and acute
- Living in later decades of the century

Possible

- Poor self-esteem/vulnerability because of negative thinking, poor self-control, social incompetence, neuroticism/vulnerable temperament or personality
- Parents divorced, separated or in marital conflict and controlling parental style
- Early childhood sexual and physical abuse
- Aboriginal or Torres Strait Islander descent, residing in rural areas, low socio-economic status, being homeless or in custody, non-English speaking background or refugee status, intellectual disability
- Poor peer relationships
- Decreasing school performance, having learning difficulties
- Prior history of suicide attempt
- Hormonal changes of puberty, sleep dysfunction
- Medical and physical conditions and ailments

Unlikely risk factor but needing further investigation

- Parental death during childhood

This framework, proposed by the NHMRC, informed the development of the framework of risk factors for depression used in the current chapter of this report. Many of the risk factors for depression among young people identified by the NHMRC were measured in the Queensland Young People's Mental Health Survey. Notable differences between the NHMRC framework and the framework used in this chapter include the absence of any measure of a cohort effect (i.e. living in later decades of the century), controlling parental style, hormonal changes of puberty and sleep dysfunction, intellectual disability, being in custody or refugee status. A direct measure of a family history of depression was not included in the Queensland Young People's Mental Health Survey but rather a self-report measure of a family history of psychiatric or nervous problems was measured. Finally, several of the factors (in particular the intrapersonal skills and personality characteristics) identified by the NHMRC as risk factors have been included in the next chapter as protective factors rather than in the current chapter as risk factors. A rationale for this decision and a description of a protective factor is provided in the introduction to the next chapter.

This chapter explores the associations between depression and a range of potential risk factors, including demographic characteristics of young people, their family situation, their experience of adverse life events, personality factors, risk taking behaviour and physical and medical conditions. This approach of exploring risk factors for adverse health outcomes provides useful information to guide the development of targeted health interventions. Nevertheless, this approach is unlikely to describe completely what are in reality complex pathways. Therefore, the findings in this chapter should be interpreted within the constraints imposed by the study design and analytical approach (see section 1.2.3). In particular, the reader is reminded that the data were collected using a cross-sectional survey, and therefore the direction of associations can not be ascertained and statements of causality would be entirely inappropriate. For example, in relation to risk taking behaviours, it is unclear whether they precede or are a consequence of depressive symptomatology, or both.

ANALYTICAL METHODS

6.2.1 DEFINING THE OUTCOME OF DEPRESSION

The continuously scaled CES-Depression scores were used as the outcome variable in these analyses. Hence, the statistical models are exploring the risk factors for current depressive symptomatology.

6.2.2 POTENTIAL RISK FACTORS FOR DEPRESSION

The following variables were considered as potential risk factors for current depressive symptomatology.

Demographic Factors

The demographic characteristics included Aboriginal or Torres Strait Islander status, language spoken at home, country of birth, geographical location of residence (capital city/provincial/rural property or farm), marital status, sexual identity, having children, early school leaving and participation in higher education.

Family Factors

Family factors included parental divorce and whether the young person had experienced distress as a result of problems with (i) parents, (ii) violence in the home, (iii) suicide of a family member or (iv) death of a parent or guardian. A family history of psychiatric/nervous problems and alcoholism were also included in the list of potential risk factors - specifically, whether these problems had ever been experienced by the participant's (i) mother, (ii) father, (iii) sibling or (iv) an extended family member.

Adverse Life Events

The list of adverse life events included sexual abuse and whether the young person had experienced distress as the result of unplanned pregnancy, abortion, sexually transmitted diseases, death of a friend, suicide of a friend, physical abuse, being bullied, homelessness, financial hardship, problems with friends, a relationship break-up, school or university failure, anxiety about school or university performance, or problems at work.

Psychiatric Conditions

The self-reported measures of mental illness were included as potential risk factors - namely, whether the young person reported that they had ever been diagnosed with schizophrenia, borderline personality disorder, an anxiety disorder or anorexia nervosa/bulimia by a doctor. As stated previously, the interpretation of these self-report measures of psychiatric illness should be conducted with caution.

Personality Traits

The sub-scales of the Eysenck Personality Inventory - namely, extroversion/introversion and neuroticism - were both included in the list of potential risk factors.

Risk Taking Behaviour

During the past several decades, numerous studies have demonstrated the co-existence of multiple unhealthy behaviours that appear to prevail during the adolescent years. Jessor (1991) has referred to this phenomenon as the "risk behaviour syndrome". Several of these risk behaviours have been included in the list of potential risk factors for depression - specifically, two delinquency sub-scales (i.e. property damage/vandalism and aggressive behaviour), smoking tobacco, use of marijuana, intravenous drug use, binge drinking, drink driving, multiple sexual partners and non-use of condoms during the most recent occasion of sex. Again, it is important to remember that risk taking behaviour should be recognised as a potential consequence of depression as well as a possible antecedent.

Medical and Physical Conditions and Ailments

The following medical and physical conditions were included as risk factors for depression: asthma, disability associated with significant loss of sight, epilepsy, obesity, physical disability, diabetes and disability associated with a significant loss of hearing.

6.2.3 ANALYSIS

The analysis was conducted in three stages. At the first stage, multiple linear regression modelling was used to estimate the strength of association between total depression score and each of the listed risk factors within their own risk factor group: demographic characteristics, family factors, adverse life events, risk behaviours and medical and physical conditions and ailments. The analysis was adjusted for age, and sampling stratum. These adjustments were made since a preliminary analysis established associations between depression and age, and sampling stratum was included in the adjustment to reflect the study design. Results are expressed in the tables as adjusted means and standard errors.

The second stage of the analysis involved identifying the independently associated risk factors within each risk factor group separately for males and females. Again, this was conducted using multiple linear regression analyses controlling for age and stratum. The sample was stratified by gender and all results are presented separately for males and females. The third and final stage of the analysis involved entering the

independently associated risk factors into a final overall multiple linear regression model in order to take into account any correlation between the risk factors and to identify the most strongly associated risk factors.

Risk factors were identified by either their statistical significance defined at the conventional 95% level ($p < 0.05$, two-tailed), or those factors where at least a five-unit difference in depression scores was estimated between any two levels of the factor. A five-unit difference was considered to be a substantial effect size since it was equivalent to approximately half a standard deviation. The interpretation of the models took an epidemiological emphasis in this report, describing the strength of the relationships between depression and the variables of interest. As such, statistical significance values are provided purely for completeness and were not strictly used to guide the identification of risk factors for depression.

An assumption of these regression models was that the depression score was approximately normal. Although there was some skewness to the distribution of depression scores, normality was established to be approximately so by confirming that the coefficients of skewness and kurtosis were within the range of -2 to +2. Another assumption of these models was that the variance of the depression score should be approximately similar across comparison groups. Investigation showed that this assumption was reasonable (such as sex and education).

RESULTS

6.3.1 DETERMINATION OF RISK FACTORS FOR DEPRESSION

Demographic Factors

Table 6.1 shows the relationship between the various demographic characteristics and depression. Mean scores and standard errors are reported in the table. Also, as noted in the footnote to the table, the grey shading shows those relationships that were statistically significant at the $p < 0.05$ level or where there was a difference of five or more units of depression.

Table 6.1 Depression and demographic characteristics

		MALES			FEMALES		
		N	Mean	s.e	N	Mean	s.e
Indigenous	Yes	30	14.9	(1.6)	38	19.2	(1.8)
	No	1284	11.9	(0.3)	1635	15.0	(0.3)
Language spoken	English	1259	11.9	(0.3)	1615	15.1	(0.3)
at home	Non-English	52	14.5	(1.2)	46	18.1	(1.7)
Country of birth	Australia	1174	11.8	(0.3)	1502	15.1	(0.3)
	Other	147	13.1	(0.8)	175	15.4	(0.9)
Geographical	Capital City	395	11.5	(0.5)	522	14.9	(0.6)
location	Provincial	796	11.9	(0.3)	950	15.4	(0.4)
	Property/Farm	110	11.9	(0.8)	163	13.6	(0.9)
Marital status	Single	1228	11.9	(0.3)	1403	15.2	(0.3)
	Married or De facto	62	11.1	(1.2)	235	14.4	(0.8)
	Divorced or Widowed	12	14.5	(2.6)	22	16.2	(2.4)
Sexual identity	Straight	1239	11.7	(0.3)	1578	14.7	(0.3)
	Not straight	59	16.9	(1.2)	77	23.6	(1.3)
Any children	Yes	34	14.4	(1.6)	135	17.1	(1.0)
	No	1277	11.8	(0.3)	1530	14.9	(0.3)
Early school	Not early	1116	11.8	(0.3)	1440	14.8	(0.3)
leaving	Early	132	13.0	(0.8)	147	17.3	(0.9)
Higher education	Nil	250	13.2	(0.6)	269	15.4	(0.7)
	TAFE/Uni	544	11.2	(0.5)	755	14.6	(0.5)
	Still in school	456	12.1	(0.5)	553	15.4	(0.6)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

A multivariate analysis of the identified risk factors confirmed that a non-English speaking background, sexual identity, and not pursuing higher education were independent risk factors for depression among young males ($p = 0.047$, $p < 0.001$ and $p = 0.013$ respectively). Sexual identity and leaving school early were independent demographic risk factors for depression among young females ($p < 0.001$ and $p = 0.045$ respectively).

Family Factors

Table 6.2 shows the means and standard errors for the relationship between the family factors and depression.

Table 6.2 Depression and family characteristics

		MALES			FEMALES		
		N	Mean	s.e	N	Mean	s.e
Parental divorce	No	1054	11.5	(0.3)	1313	14.5	(0.3)
	Yes	258	13.5	(0.6)	349	17.2	(0.6)
Problems with parents	No	819	10.7	(0.3)	835	13.0	(0.4)
	Yes	463	14.5	(0.4)	813	17.7	(0.4)
Violence at home	No	1191	11.8	(0.3)	1508	14.6	(0.3)
	Yes	91	16.5	(1.0)	140	21.7	(0.9)
Family history of suicide	No	1266	12.1	(0.3)	1618	15.1	(0.3)
	Yes	16	11.9	(2.3)	30	21.2	(2.1)
Death of a parent	No	1235	12.1	(0.3)	1596	15.1	(0.3)
	Yes	47	12.0	(1.3)	52	18.3	(1.6)
Maternal mental illness	No	1222	11.8	(0.3)	1526	14.6	(0.3)
	Yes	74	14.9	(1.1)	122	20.4	(1.0)
Paternal mental illness	No	1258	11.8	(0.3)	1575	14.8	(0.3)
	Yes	38	17.6	(1.5)	73	20.7	(1.3)
Sibling mental illness	No	1270	11.9	(0.3)	1600	15.0	(0.3)
	Yes	26	15.2	(1.8)	48	18.0	(1.6)
Extended family	No	1178	11.9	(0.3)	1428	14.7	(0.3)
member mental illness	Yes	118	12.5	(0.8)	220	17.5	(0.8)
Maternal alcoholism	No	1261	11.9	(0.3)	1587	14.9	(0.3)
	Yes	35	15.3	(1.5)	63	20.1	(1.4)
Paternal alcoholism	No	1189	11.8	(0.3)	1488	14.7	(0.3)
	Yes	107	14.3	(0.9)	162	18.7	(0.9)
Sibling alcoholism	No	1282	11.9	(0.3)	1616	15.0	(0.3)
	Yes	14	13.6	(2.4)	34	20.0	(1.9)
Extended family	No	1097	11.7	(0.3)	1297	14.8	(0.3)
member alcoholism	Yes	199	13.6	(0.6)	353	16.2	(0.6)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

Since it was expected that some of these associations reflected different perspectives on the same underlying issues, the identified associations were considered in an overall regression model to determine which associations were independent. For males, this analysis confirmed the association between depression and distress due to problems with parents ($p < 0.001$), distress due to violence in the home ($p = 0.035$) and paternal mental illness ($p = 0.008$). For females, this analysis confirmed the independent association of depression with distress due to problems with parents ($p < 0.001$), distress due to violence in the home ($p < 0.001$), distress due to suicide of a family member ($p = 0.007$), maternal mental illness ($p < 0.001$), paternal mental illness ($p = 0.009$) and mental illness of an extended family member ($p = 0.048$).

Adverse Life Events

Table 6.3 shows the means and standard errors for the relationship between the various adverse life events and depression.

Table 6.3 Depression and adverse life events

		MALES			FEMALES		
		N	Mean	s.e	N	Mean	s.e
Unplanned pregnancy	No	1246	12.0	(0.3)	1544	14.9	(0.3)
	Yes	36	13.4	(1.5)	104	20.4	(1.1)
Abortion	No	1258	12.0	(0.3)	1576	15.0	(0.3)
	Yes	24	14.8	(1.9)	72	21.1	(1.3)
Experience of	No	1279	11.7	(0.3)	1360	13.7	(0.3)
sexual abuse	Yes	26	24.1	(1.7)	297	20.9	(0.6)
STD	No	1267	12.0	(0.3)	1592	15.1	(0.3)
	Yes	15	17.1	(2.3)	56	20.6	(1.5)
Death of a friend	No	1117	11.9	(0.3)	1398	15.0	(0.3)
	Yes	165	13.2	(0.7)	250	16.4	(0.7)
Suicide of a friend	No	1239	12.0	(0.3)	1569	15.1	(0.3)
	Yes	43	15.2	(1.4)	79	18.6	(1.3)
Physical abuse	No	1255	11.9	(0.3)	1570	14.9	(0.3)
	Yes	27	21.3	(1.7)	78	21.7	(1.3)
Homelessness	No	1262	12.0	(0.3)	1615	15.0	(0.3)
	Yes	20	19.6	(2.0)	33	25.2	(2.0)
Financial hardship	No	983	11.1	(0.3)	1201	13.8	(0.3)
	Yes	299	15.2	(0.5)	447	19.0	(0.5)
Problems with friends	No	910	10.9	(0.3)	795	13.9	(0.4)
	Yes	372	15.1	(0.5)	853	16.5	(0.4)
Relationship break-up	No	951	11.0	(0.3)	998	13.8	(0.4)
	Yes	331	15.4	(0.5)	650	17.6	(0.4)
Being bullied	No	105	11.8	(0.3)	1528	14.9	(0.3)
	Yes	1177	15.7	(0.9)	120	20.0	(1.0)
School or Uni failure	No	1063	11.3	(0.3)	1356	14.2	(0.3)
	Yes	219	16.5	(0.6)	292	20.1	(0.7)
Anxiety about	No	929	11.8	(0.3)	998	14.4	(0.4)
school/uni performance	Yes	353	12.9	(0.5)	650	16.7	(0.5)
Problems at work	No	1082	11.7	(0.3)	1329	14.9	(0.3)
	Yes	200	14.4	(0.7)	319	16.9	(0.6)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

Since it was expected that some of these associations reflected different perspectives on the same underlying issues, the identified associations were considered in one overall regression model to determine which associations were independent. For males, this analysis confirmed the association between depression and experience of sexual abuse ($p < 0.001$), distress due to physical abuse ($p = 0.003$), distress due to financial hardship ($p < 0.001$), distress due to problems with friends ($p = 0.001$), distress due to a relationship break-up ($p < 0.001$), distress due to bullying ($p = 0.033$) and distress due to failure at school ($p < 0.001$). For females, this analysis confirmed experience of sexual abuse ($p < 0.001$), distress due to homelessness ($p = 0.035$), distress due to financial hardship ($p < 0.001$), distress due to a relationship break-up ($p < 0.001$), distress due to bullying ($p = 0.002$) and distress due to failure at school ($p < 0.001$).

Psychiatric Conditions

Table 6.4 shows the means and standard errors for the relationship between the self-reported psychiatric conditions and depression.

Table 6.4 Depression and psychiatric conditions

		MALES			FEMALES		
		N	Mean	s.e.	N	Mean	s.e.
Schizophrenia	Yes	13	21.7	(2.5)	8	22.4	(4.0)
	No	1310	11.8	(0.3)	1672	15.1	(0.3)
Borderline	Yes	11	21.7	(2.7)	22	25.2	(2.4)
personality disorder	No	1312	11.8	(0.3)	1658	15.0	(0.3)
Anxiety disorder	Yes	12	28.0	(2.6)	34	20.8	(1.9)
	No	1311	11.8	(0.3)	1646	15.0	(0.3)
Anorexia Nervosa	Yes	8	20.0	(3.2)	121	21.9	(1.0)
or bulimia	No	1315	11.9	(0.3)	1559	14.6	(0.3)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

It should be noted that the prevalence of self-reported psychiatric conditions was low, therefore rendering it difficult to examine their association with depressive symptomatology. This difficulty is highlighted by the high standard error rates indicating that the findings should be interpreted with caution.

The independence of these relationships was considered in a multiple regression model, which confirmed schizophrenia and anxiety as risk factors for depression in males ($p = 0.004$ and $p < 0.001$ respectively). Borderline personality disorder also remained in the model for males, in that there was a difference of more than five units in depression between those males who reported having being diagnosed with borderline personality disorder and those who did not. For females, depression was independently associated with borderline personality disorder ($p < 0.001$) and anorexia nervosa/bulimia ($p < 0.001$).

Personality Traits

Table 6.5 shows the means and standard errors for the relationship between the personality factors and depression.

Table 6.5 Depression and personality

		MALES			FEMALES		
		N	mean	s.e.	N	Mean	s.e.
Extroversion	0-4 (Low)	412	15.0	(0.4)	551	18.2	(0.5)
	5	261	12.1	(0.5)	317	15.7	(0.6)
	6	307	10.4	(0.5)	381	13.2	(0.6)
	> 6 (High)	312	9.2	(0.5)	380	11.7	(0.6)
Neuroticism	0-3 (Low)	550	7.1	(0.3)	482	7.5	(0.4)
	4-5	386	12.1	(0.4)	483	12.4	(0.4)
	6	178	15.2	(0.6)	245	17.8	(0.6)
	> 6 (High)	193	22.5	(0.5)	444	24.7	(0.4)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

For clarity of presentation, the personality variables were categorised into quartiles of their distribution rather than maintaining them as continuous variables. There was no substantial loss of information by simplifying in this manner. Again, the independence of these relationships were considered in a multiple regression model, the findings from which demonstrated that depression is strongly associated with lower extroversion (introversion) and higher neuroticism for both males and females ($p < 0.001$ in all cases).

Risk Taking Behaviour

Table 6.6 shows the means and standard errors for the relationship between the range of risk taking behaviours and depression.

Table 6.6 Depression and risk taking behaviour

		MALES			FEMALES		
		N	mean	s.e.	N	Mean	s.e.
Property damage	None	769	10.6	(0.3)	1210	13.4	(0.3)
& vandalism	1 or more	538	13.9	(0.4)	461	19.4	(0.5)
Aggressive behaviour	None	658	10.3	(0.4)	1224	13.3	(0.3)
	1 or more	646	13.6	(0.4)	445	19.8	(0.5)
Smoking tobacco	Non-smoker	1011	11.0	(0.3)	1235	13.7	(0.3)
(cigarettes per day)	1-5 per day	83	13.9	(1.0)	163	17.6	(0.9)
	6-10 per day	80	14.9	(1.0)	122	17.5	(1.0)
	11-20 per day	97	14.9	(0.9)	102	20.6	(1.1)
	> 20 per day	49	16.1	(1.3)	51	22.1	(1.6)
Use of marijuana	Yes	309	13.9	(0.5)	284	19.3	(0.7)
in past month	No	1004	11.3	(0.3)	1386	14.2	(0.3)
Intravenous drug use	Yes	45	14.5	(1.4)	46	22.0	(1.6)
	No	1270	11.8	(0.3)	1626	14.9	(0.3)
Binge drinking	Non-drinker	342	10.6	(0.5)	446	14.0	(0.6)
	0	466	11.6	(0.4)	748	15.0	(0.4)
	1	287	12.2	(0.5)	335	15.5	(0.6)
	2	141	13.0	(0.8)	106	17.2	(1.1)
	3+	83	15.8	(1.0)	41	21.3	(1.8)
Drink driving	Don't drive	419	12.3	(0.5)	639	16.7	(0.5)
	Never	646	11.3	(0.4)	870	13.6	(0.4)
	Rarely	179	12.3	(0.7)	135	15.8	(1.0)
	Sometimes	56	13.7	(1.2)	22	21.3	(2.4)
	Often	18	13.3	(2.1)	8	23.2	(3.9)
Number of sexual	0-2	523	12.3	(0.4)	820	15.8	(0.4)
partners (12 months)	3+	148	15.4	(0.8)	155	20.5	(0.9)
	Never had sex	624	10.8	(0.4)	657	13.0	(0.5)
Condom use	Yes	364	12.9	(0.5)	375	15.6	(0.6)
	No	303	13.1	(0.6)	577	17.3	(0.5)
	Never had sex	624	10.8	(0.4)	657	12.7	(0.5)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

Since it was expected that some of these associations reflected different perspectives on the same underlying issues, the identified associations were considered in one overall regression model to determine which associations were independent. For males, this analysis confirmed the association between depression and aggression score ($p < 0.001$), damage to property ($p = 0.001$), smoking ($p = 0.001$) and number of sexual partners ($p = 0.009$). For females, this analysis confirmed the association between depression and aggression score ($p < 0.001$), damage to property ($p < 0.001$), smoking ($p = 0.007$), drink driving ($p < 0.002$), number of sexual partners ($p = 0.005$) and intravenous drug use (difference greater than 5).

Medical and Physical Conditions and Ailments

Table 6.7 shows the means and standard errors for the relationships between the medical and physical conditions and depression.

Table 6.7 Depression and medical and physical conditions and ailments

		MALES			FEMALES		
		N	mean	s.e.	N	Mean	s.e.
Asthma	No	962	11.9	(0.3)	1213	14.5	(0.3)
	Yes	361	12.2	(0.5)	467	16.7	(0.5)
Significant loss of sight	No	1303	11.9	(0.3)	1651	15.0	(0.3)
	Yes	20	16.4	(2.0)	29	20.7	(2.1)
Epilepsy	No	1298	11.9	(0.3)	1649	15.0	(0.3)
	Yes	25	15.1	(1.8)	31	20.3	(2.0)
Obesity	No	1282	11.8	(0.3)	1594	14.8	(0.3)
	Yes	41	15.9	(1.4)	86	19.6	(1.2)
Physical disability	No	1282	11.8	(0.3)	1648	15.0	(0.3)
	Yes	41	15.1	(1.4)	32	18.4	(2.0)
Diabetes	No	1318	11.9	(0.3)	1668	15.1	(0.3)
	Yes	5	12.0	(4.0)	12	16.4	(3.2)
Significant loss of hearing	No	1305	11.8	(0.3)	1655	15.1	(0.3)
	Yes	18	19.7	(2.1)	25	16.7	(2.3)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

The independence of these relationships was considered in a multiple regression model, which confirmed obesity and deafness as risk factors for depression in males ($p = 0.024$ and $p = 0.001$ respectively). For females, depression was independently associated with asthma ($p = 0.001$), blindness ($p = 0.048$) and obesity ($p = 0.001$). It should be noted that the small sample size for young people who reported having diabetes means that the result for this particular condition should be interpreted with caution.

6.3.2 SUMMARY OF RISK FACTORS FOR DEPRESSION

This section summarises the findings from stage 3 of the data analysis, that is, the final multiple regression model. The analysis was conducted separately for males and females. All those risk factors that were identified in the multiple linear regression models (step 2) in the preceding sections were entered into the final model. Those variables in the final regression model that were statistically associated with depression ($p < 0.05$) or for which adjusted mean differences between any two categories of the variable were five or more are reported in Table 6.8. The eta^2 value for each variable is displayed in brackets. This value is a measure of the association

between depression and the variable of interest, with higher values indicating a stronger association.

Again, the reader is reminded that as this report is based on data collected from a cross-sectional survey, there are several inherent limitations imposed on any interpretations derived from the study. In particular the findings only indicate associations between the risk factors and depression, not causality or directionality. Also, although the sample size was large overall, there were several points at which limited data were available for a meaningful analysis. For example, the number of young people who reported diabetes was low, therefore limiting the potential of the survey to explore the association between depression and diabetes.

Table 6.8 *Risk factors for which there was a statistically significant relationship with current depressive symptomatology in the final regression model*

MALES	FEMALES
Demographics	**Demographics**
Sexual identity conflict (eta²=0.5%)	Sexual identity conflict (eta²=0.5%)
Family Factors	**Family Factors**
Problems with parents (eta²=0.8%)	Problems with parents (eta²=0.4%)
Paternal mental illness (eta²=0.5%)	Violence in the home (eta²=0.1%)
	Family member's suicide (eta²=0.1%)
Adverse Life Events	**Adverse Life Events**
Sexual abuse (eta²=1.5%)	Sexual abuse (eta²=0.6%)
Physical abuse (eta²=0.4%)	Homelessness (eta²<0.1%)
Relationship break-up (eta²=0.7%)	
Failure at school/university (eta²=1.6 %)	
Psychiatric Conditions	**Psychiatric Conditions**
Borderline personality disorder (eta²=0.1%)	Borderline personality disorder (eta²=0.1%)
Anxiety disorder (eta²=0.6 %)	Eating disorder (eta²=0.9%)
Personality Factors	**Personality Factors**
Higher neuroticism (eta²=22.7%)	Higher neuroticism (eta²=23.3%)
Lower extroversion (eta²=5.1%)	Lower extroversion (eta²=2.7%)
Risk Taking Behaviour	**Risk Taking Behaviour**
Aggressive behaviour (eta²=0.4%)	Aggressive behaviour (eta²=1.0%)
Smoking (eta²=1.6%)	Property damaging behaviour (eta²=0.5%)
Greater number of sexual partners (eta²=0.6%)	Smoking (eta²=0.2%)
	Intravenous drug use (eta²<0.1%)
	Drink driving (eta²=0.7%)
	Greater number of sexual partners (eta²=0.6%)
Medical and Physical Conditions and Ailments	**Medical and Physical Conditions and Ailments**
Significant loss of hearing (eta²=0.2%)	Significant loss of sight (eta²<0.01%)

Note: eta refers to the strength of the association between the factor and depression scores.

There were some similarities in groups at increased risk for males and females. In particular, sexual identity conflict, problems with parents, sexual abuse, borderline personality disorder, neuroticism, introversion, aggressive behaviour, smoking, and having had a greater number of sexual partners in the past 12 months were associated with current depressive symptomatology for both males and females. The set of risk factors cited in Table 6.8 accounted for 44.2% (adjusted R squared) of the variation in

depression scores for males, and for 43.0% (adjusted R squared) of the variation in depression scores for females.

It is worth noting that of the factors measured in the survey neuroticism has by far the strongest association with depression. This finding is consistent with the plethora of psychological research, which has found an association between neuroticism and depression. The utility of the association for primary prevention is debatable. This is linked to the state-trait debate surrounding personality theory. It has been suggested that neuroticism and depression are fundamentally similar constructs and therefore the inclusion of neuroticism does not, in practical terms, add anything to the model. On the other hand, early intervention strategies may benefit from recognising the symptoms of neuroticism and implementing strategies to reduce the likelihood of depression among this high-risk group.

The strength of the relationships between the other significantly associated factors and depression were comparatively weak.

The model shows a relatively strong association between risk taking behaviour and depression particularly for young females. It is not possible however to ascertain the direction of this relationship and it is likely that risk taking behaviour is as much a consequence of depression as it is an antecedent to depression. It has been suggested that risk taking behaviour may be a coping strategy for dealing with depression. One important implication of the association is that health promotion campaigns such as anti-smoking initiatives need to consider the contribution that depression may be making to risk taking behaviour.

There are still substantial amounts of unexplained variation in current depressive symptomatology among the sample of young people that needs to be accounted for, and this might be through the postulation of more complex models of association or, perhaps more likely given the complexity, by variables unmeasured in this study.

6.4 KEY FINDINGS

* *The majority of risk factors measured in the survey were associated with current depressive symptomatology among young people. Consequently, mental health initiatives to reduce these risk factors are warranted.*

* *Generally, the findings provide support for the confirmed, probable and possible risk factors for depression identified by the NHMRC (1997). Key differences include the identification of sexual identity as a risk factor, while Indigenous status, residing in rural areas and being from a non-English speaking background did not emerge as significant risk factors.*

* *In accordance with the suggestion of the NHMRC (1997), the findings indicated that the death of a parent was not significantly associated with greater risk of current depressive symptomatology.*

* *The association between problems with parents and relationship break-ups and current depressive symptomatology, combined with their high prevalence, has important implications for universal mental health promotion strategies.*

* *Sexual abuse is a notable risk factor for depressive symptomatology among both young males and young females and has important implications for universal mental health promotion strategies and early intervention strategies for young people.*

* *Of the risk factors measured in the study, neuroticism had the strongest association with current depressive symptomatology for both young males and young females.*

* *Lower levels of extroversion (i.e. introversion) are strongly associated with current depressive symptomatology for both young males and young females.*

* *The association between eating disorders and current depressive symptomatology for young females, combined with their high prevalence, has important implications for universal mental health promotion strategies and early intervention strategies for young females.*

* *The association between delinquent behaviour and current depressive symptomatology has important implications for universal mental health promotion strategies and early intervention strategies for young people.*

7. Protective Factors for Depression

7.1 BACKGROUND

The approach of identifying risk factors oversimplifies the complex nature of depression and the role that these factors may play in contributing to depression among young people. For example, the cumulative effect of experiencing multiple adverse life events may create more vulnerable young people or, alternatively, as has been suggested by Rutter (1985, p. 600) "...unpleasant and potentially hazardous events may toughen the individual - what has become termed as the 'steeling' effect of stressors." Furthermore, for every young person who experiences a risk factor and the subsequent adverse outcome (such as depression) there are many more young people who experience the risk factor and do not experience the adverse outcome. It is a useful approach to focus on these resilient young people, that is, to identify the protective factors that may interrupt the pathway to the adverse outcome. Studies conducted in the 1970s and 1980s suggested that some young people appear to be resilient in the "face of adversity", even in circumstances of cumulative risk for poor mental health (Wedge and Prosser, 1973; West and Farrington, 1973; Rutter, 1985). While popular in the 1970s, particularly in relation to overcoming the effects of poverty and social disadvantage, the concept of resilience and the promotion of protective factors has more recently contributed to the evolution of frameworks for understanding other adverse social and health outcomes among young people.

It is important to be clear about what a protective factor is and an example assists in this regard. In the previous chapter, it was shown that sexual abuse is a risk factor for depression. However, some young people who have experienced sexual abuse do not display symptoms associated with depression. What is it then that differentiates those young people who report that they have been sexually abused but do not report problematic levels of depressive symptomatology, from those who have been sexually abused and do display problematic levels of depressive symptomatology? That is, what interrupts the pathway between the adverse life event such as sexual abuse and the negative outcome such as depression? Essentially, it is the factors that interrupt this pathway that constitute protective factors. This is also known as the buffering effect. In a statistical sense, this is the interaction effect. Despite the focus on defining a protective factor as that which interrupts the pathway between a risk factor and a negative outcome, it is not necessarily incorrect to consider the direct effect of the particular factor on the adverse outcome as being protective. This direct relationship is also of interest and is particularly valuable in regard to the design of universal mental health interventions. It is useful to clarify which level of analysis, either the buffering effect or the direct relationship, is being used when discussing protective factors.

When exploring risk and protective factors for particular problems a further issue needs to be considered. Namely, it is important to determine at what level it is realistic and meaningful to intervene. In short, the notion of modifiability is important. For example, with a high-risk group such as drink drivers the emphasis is on preventing the risk factor before focusing on the associated depression. Therefore, in this context it is less useful to explore the buffering protective factors. For some high-risk groups it will be useful to focus on both. For example, in regards to sexual abuse it is desirable to prevent the abuse and also worthwhile to enhance the protective factors for those who have experienced sexual abuse.

Michael Rutter's work in the area of protective factors also identifies a number of salient points in any discussion of protective factors. Rutter (1995) highlights three important considerations in defining protective factors. First, a protective factor does not necessarily have to be a pleasurable or positive happening or experience. Second, the protective factor may not have any significant effect on the outcome in the absence of the risk factor. The third consideration highlighted by Rutter is that a protective factor may not be an event or experience but rather a characteristic of the individual such as intrapersonal skills or personality traits. The area of protective factors for depression in Australia is relatively unexplored. However, there has been

recent work investigating protective factors for other adverse social and health outcomes, in particular crime. The work of Homel and colleagues (National Crime Prevention, 1999) identifies several categories of protective factors for young people: (i) characteristics of the individual, (ii) family characteristics, (iii) school environment, (iv) life events and (v) community and cultural factors.

The current chapter explores the associations between depression and a range of hypothesised protective factors. The first part of the chapter explores the relationship between the hypothesised protective factors and depression (i.e. main effects) since, as explained above, these relationships are in and of themselves valuable areas to be explored for universal mental health promotion and primary prevention purposes. Essentially this process is equivalent to the first step in the process of identifying risk factors in the previous chapter. The second part of the chapter explores the modifying effects of the protective factors, that is the idea of interrupting the pathway to depression among high risk groups is investigated (i.e. the interaction effect). The findings from this second part of the chapter have more to contribute to our early intervention initiatives.

The impact of the three protective factors identified by the NHMRC guidelines are examined: good peer relationships, good parental relationships and being employed. However, the range of protective factors has been extended to include several additional factors that were identified in the broad social and health literature of the 1970s and 1980s as potentially contributing to the development of resilience among young people (Rutter and Madge, 1976; Beardslee and Podorefsky, 1988; Werner and Smith, 1989). In this chapter, protective factors are categorised into four groups: (i) family connectedness, (ii) social and community connectedness, (iii) intrapersonal skills and finally (iv) leisure activities.

ANALYTICAL METHODS

7.2.1 POTENTIAL PROTECTIVE FACTORS FOR DEPRESSION

Family Connectedness

The first group, namely family connectedness, includes being able to confide in parents, siblings or extended family members; and seeking help from one's father, mother, a sibling or an extended family member.

Social and Community Connectedness

The second group of protective factors refers to young people's social and community connectedness. This group includes being employed; number of close friends; frequency of socialising with friends; participating in organised sport; being able to confide in a male friend, a female friend or a partner; and seeking help from a female friend, male friend or partner.

Intrapersonal Skills

The third group incorporates a range of intrapersonal skills including a sense of hopefulness, the dominant type of locus of control (i.e. either external or internal), problem solving ability and level of self-actualisation. More specifically, locus of control refers to the extent to which the young person believes they have control over their life. The measure of problem solving ability includes items such as trust in one's own ability to solve problems, clearly defining the problem before acting, congruence between expected outcome and the actual outcome and being content with the outcome. Self-actualisation refers to how close the young person believes they are to being the person they would like to be.

Leisure Activities

The fourth group of protective factors refers to a range of leisure activities including frequency of participation in outdoor activities, going to movies/concerts/plays, watching television and videos, reading, playing or listening to music, participating in drama, participating in dance and participating in arts.

7.2.2 ANALYSIS

The analysis was conducted in two stages. In the first stage the direct relationship between the protective factor and depression was explored (as for stage 1 for the risk factors in the previous chapter). Multiple regression analysis controlling for age and stratum were used to explore the relationships. The results from this stage of the analysis are presented in section 7.3.1.

The specific aim of the second stage of the analysis was to identify protective factors that were effective in reducing depression among young persons with a given risk factor, that is to identify buffering protective factors. The results from this stage of the analysis are presented in section 7.3.2. For this stage of the analysis, robust composite measures of family connectedness, social and community connectedness and participation in leisure activities were derived. These composite measures were derived in order to examine the association between these protective domains and the groups at increased risk for depression, which were reported in the previous chapter in Table 6.8. The composite measures were derived by conducting a series of reliability analyses separately for males and females for each of the three domains.

The results from the reliability analysis indicated that the following items loaded on their respective domains. The family connectedness domain is comprised of being able to confide in parents, siblings or extended family members; and seeking help from one's father, mother, a sibling or an extended family member. Social and community connectedness is comprised of number of close friends; frequency of socialising with friends; participating in organised sport; being able to confide in a male friend, or a female friend; and seeking help from a female friend or a male friend. Participation in leisure activities comprised of frequency of participation in outdoor activities; going to movies/concerts/plays; watching television and videos; reading; playing or listening to music; participating in drama; participating in dance; and participating in arts. Scores for each of the domains were determined by summing across each of the individual items of the domain. The respective alphas for the three domains for the males were 0.66, 0.55 and 0.43. For the females the respective alphas were 0.66, 0.59 and 0.46.

The four intrapersonal skills remained as individual domains. Multiple regression analyses controlling for age and stratum were conducted. These analyses were conducted separately for the male and the female groups at increased risk. The statistical models included the interaction term between the risk group, the potential protective domains and depression.

At both stages of the analyses, protective factors were identified by either their statistical significance defined at the conventional 95% level ($p < 0.05$, two-tailed), or those factors where at least a five-unit difference in depression scores was estimated between any two levels of the factor. Again, a five-unit difference was considered to be a substantial effect size since it was equivalent to approximately half a standard deviation. The interpretation of the models took an epidemiological emphasis in this report, describing the strength of the relationships between depression and the variables of interest. As such, statistical significance values are provided purely for completeness and were not strictly used to guide the identification of protective factors for depression.

7.3 RESULTS

7.3.1 DETERMINATION OF OVERALL PROTECTIVE FACTORS FOR DEPRESSION

Tables 7.1 to 7.4 show the potential protective factors, as they are associated with depression. Mean scores and standard errors are reported in the tables. Similar to the tables presented in the previous chapter, grey shading indicates those relationships that were statistically significantly at the $p < 0.05$ level or where there was a difference of five or more units of depression. It may be stated that generally most of the potential protective factors were determined to be significantly associated with depression scores.

Family Connectedness

Table 7.1 displays the relationships between aspects of family connectedness and depression for young males and females.

Table 7.1 Family connectedness and depression

		MALES			FEMALES		
		N	Mean	s.e.	N	Mean	s.e.
Confiding in a parent	No	633	12.7	(0.4)	848	16.5	(0.4)
	Yes	486	10.1	(0.4)	729	12.4	(0.4)
Confiding in a sibling	No	810	11.9	(0.3)	1119	15.2	(0.3)
	Yes	289	10.7	(0.5)	458	12.9	(0.5)
Confiding in an extended family member	No	998	11.6	(0.3)	1401	14.9	(0.3)
	Yes	101	11.4	(0.9)	176	12.2	(0.8)
Help-seeking from father	No	1026	12.5	(0.3)	1272	16.0	(0.3)
	Yes	292	10.1	(0.5)	402	12.2	(0.6)
Help-seeking from mother	No	875	12.7	(0.3)	738	16.8	(0.4)
	Yes	443	10.6	(0.4)	936	13.8	(0.4)
Help-seeking from a sibling	No	1096	12.3	(0.3)	1190	15.8	(0.3)
	Yes	222	10.4	(0.6)	484	13.6	(0.5)
Help-seeking from an extended family member	No	1231	11.9	(0.3)	1492	15.1	(0.3)
	Yes	87	13.2	(1.0)	182	15.4	(0.8)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

As can be seen from the table above, confiding in a parent or sibling and help-seeking from a parent, sibling or extended family member were all protective factors against depression for young males. Similarly, for young females, confiding in a parent or sibling and help-seeking from a parent, sibling or extended family member were also protective factors against depression, as was confiding in an extended family member.

Social and Community Connectedness

Table 7.2 displays the relationship between aspects of social and community connectedness and depression for young males and females.

Table 7.2 Social and community connectedness and depression

	MALES			FEMALES		
	N	Mean	s.e.	N	Mean	s.e.
Employment status						
Still in school	456	12.0	(0.5)	553	15.4	(0.6)
Employed	642	11.0	(0.4)	772	13.8	(0.5)
Unemployed	217	14.0	(0.6)	348	17.3	(0.6)
Number of close friends						
0	49	21.5	(1.2)	51	27.7	(1.5)
1	62	14.2	(1.1)	107	19.9	(1.0)
2-5	741	12.2	(0.3)	1002	15.4	(0.4)
6+	465	10.1	(0.4)	517	12.2	(0.5)
Frequency of socialising with friends						
Never-rarely	190	14.0	(0.6)	218	19.0	(0.8)
Sometimes-often	1117	11.5	(0.3)	1450	14.5	(0.3)
Participation in organised sport						
Never-rarely	555	13.2	(0.4)	979	16.1	(0.4)
Sometimes-often	752	10.9	(0.3)	680	13.7	(0.4)
Confiding in a male friend						
No	485	11.7	(0.4)	1121	14.5	(0.3)
Yes	614	11.5	(0.4)	465	14.8	(0.5)
Confiding in a female friend						
No	627	11.4	(0.4)	368	16.3	(0.5)
Yes	472	11.9	(0.4)	1209	14.0	(0.3)
Confiding in partner						
No	778	11.8	(0.3)	964	15.2	(0.4)
Yes	321	11.0	(0.5)	613	13.6	(0.5)
Help-seeking from a female friend						
No	889	11.5	(0.3)	426	16.0	(0.6)
Yes	429	13.0	(0.4)	1248	14.8	(0.3)
Help-seeking from a male friend						
No	839	12.0	(0.3)	1179	15.1	(0.3)
Yes	479	11.9	(0.4)	495	15.2	(0.5)
Help-seeking from partner						
No	1020	12.0	(0.3)	963	15.6	(0.4)
Yes	298	11.8	(0.5)	711	14.5	(0.4)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

For young males, being employed, having more close friends, more frequent socialising with friends and participating in organised sport were all protective factors against depression. Similarly for young females, being employed, having more close friends, more frequent socialisation with friends, and participating in organised sport were protective factors against depression, as was confiding in a female friend or a partner. Seeking help from female friends for young males was significantly associated with depression but not in a protective direction, rather young males who reported that they seek help from a female friend had higher levels of depression than males who reported that they did not seek help from a female friend.

Intrapersonal Skills

Table 7.3 shows the relationship between intrapersonal skills and depression for young males and females.

Table 7.3 Intrapersonal skills and depression

	MALES			FEMALES		
	N	Mean	s.e.	N	Mean	s.e.
A sense of hopefulness						
High	342	5.6	(0.4)	423	6.5	(0.4)
Medium High	290	9.2	(0.4)	364	10.7	(0.5)
Medium Low	308	12.1	(0.4)	369	15.3	(0.5)
Low	372	19.4	(0.4)	517	24.7	(0.4)
Locus of control						
External	263	19.4	(0.5)	423	24.3	(0.5)
Undifferentiated	411	12.3	(0.4)	556	14.6	(0.4)
Internal	644	8.6	(0.3)	694	9.9	(0.4)
Problem solving ability						
High	344	6.4	(0.4)	346	7.7	(0.5)
Medium High	317	9.4	(0.4)	383	10.9	(0.5)
Medium Low	320	13.3	(0.4)	435	15.3	(0.5)
Low	329	18.7	(0.4)	498	23.0	(0.4)
Self-actualisation						
High	337	7.8	(0.4)	378	8.0	(0.5)
Medium High	319	9.7	(0.5)	362	11.7	(0.5)
Medium Low	331	12.6	(0.4)	492	15.2	(0.4)
Low	317	18.3	(0.5)	426	24.0	(0.5)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

For both males and females, a higher sense of hopefulness, a more internal locus of control, a greater degree of problem solving ability, and greater feelings of self-actualisation were all protective against depression.

Leisure Activities

Table 7.4 shows the relationship between participation in a range of leisure activities and depression for young males and females.

Table 7.4 Leisure activities and depression

	MALES			FEMALES		
	N	Mean	s.e.	N	Mean	s.e.
Participation in outdoor activity						
Never-rarely	315	14.4	(0.5)	596	16.9	(0.5)
Sometimes-often	989	11.1	(0.3)	1068	14.2	(0.4)
Attending movies, concerts and plays						
Never-rarely	371	13.3	(0.5)	353	18.1	(0.6)
Sometimes-often	930	11.2	(0.3)	1312	14.3	(0.3)
Watching TV and videos						
Never-rarely	117	12.3	(0.8)	152	17.3	(0.9)
Sometimes-often	1192	11.8	(0.3)	1517	14.9	(0.3)
Reading						
Never-rarely	649	12.4	(0.4)	383	17.9	(0.6)
Sometimes-often	660	11.4	(0.4)	1286	14.3	(0.3)
Music						
Never-rarely	81	10.9	(1.0)	60	16.8	(1.4)
Sometimes-often	1228	12.0	(0.3)	1605	15.0	(0.3)
Drama						
Never-rarely	1172	11.7	(0.3)	1309	15.2	(0.3)
Sometimes-often	132	13.2	(0.8)	351	15.2	(0.6)
Dance						
Never-rarely	1075	11.8	(0.3)	905	15.7	(0.4)
Sometimes-often	231	12.3	(0.6)	759	14.3	(0.4)
Art						
Never-rarely	1053	11.5	(0.3)	1120	15.0	(0.4)
Sometimes-often	252	13.3	(0.6)	542	15.5	(0.5)

Note: Shading refers to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level at stage 1 of the analysis.

For young males, more frequent participation in outdoor activities, more frequent attendance at movies, concerts and plays and more frequent reading were all protective against depression. These factors were also protective for young women, as were more frequent watching of television and movies and more frequent participation in dance. There was a significant relationship between more frequent involvement in art and depression for the young males. However, this association was not protective. Rather, young males who reported that they sometimes or often participated in art had higher levels of depression than young males who reported that they never or rarely participated in art.

7.3.2 DETERMINATION OF PROTECTIVE DOMAINS FOR GROUPS AT INCREASED RISK FOR DEPRESSION

Tables 7.5 and 7.6 identify those protective domains that were effective in ameliorating the consequences of exposure to a particular risk factor for males and females respectively. As outlined in section 7.2.2 robust composite measures of family connectedness, social and community connectedness and participation in leisure activities were developed separately for males and females. See section 7.2.2 for an overview of which potential protective factors were combined to construct the domains. The intrapersonal factors remained as separate domains.

Again, there are limitations imposed on the interpretations derived from the study. In particular, although the sample size was large overall, there were several points at which limited data were available for a meaningful analysis, therefore limiting the potential of the study to explore the association between some of the protective factors and groups at increased risk for depression.

Table 7.5 Summary of protective domains for young MALES at increased risk for depression

GROUP AT INCREASED RISK	SIGNIFICANT PROTECTIVE DOMAINS						
	Family Connectedness	Social & Community Connectedness	Participation in Leisure Activities	Sense of Hopefulness	Internal Locus of Control	Good Problem Solving Ability	Self-Actualisation
Demographics							
Sexual identity conflict	✔			✔			
Family Factors							
Problems with parents				✔			
Paternal mental illness				✔			✔
Adverse Life Events							
Sexual abuse		✔		✔			
Physical abuse	✔	✔		✔		✔	
Relationship break-up		✔		✔		✔	
Failure at school or university		✔					
Psychiatric Conditions							
Borderline personality disorder							
Anxiety disorder							
Personality Factors							
Lower extroversion						✔	✔
Higher neuroticism		✔		✔			✔
Risk Taking Behaviour							
Aggressive behaviour		✔					
Smoking		✔					✔
Greater number of sexual partners		✔	✔	✔	✔	✔	✔
Medical and Physical Conditions and Ailments							
Significant loss of hearing	✔						

Note: Ticks refer to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level.

Table 7.5 shows that social and community connectedness and a sense of hopefulness are protective against depression for many high-risk groups. Six of the seven protective domains were protective against depression for those young males who reported having a greater number of sexual partners. It is also noteworthy that none of the protective domains were protective for either of the psychiatric conditions, that is borderline personality disorder or anxiety disorder.

Table 7.6 Summary of protective domains for young FEMALES at increased risk for depression

GROUP AT INCREASED RISK	SIGNIFICANT PROTECTIVE DOMAINS						
	Family Connectedness	Social & Community Connectedness	Participation in Leisure Activities	Sense of Hopefulness	Internal Locus of Control	Good Problem Solving Ability	Self-Actualisation
Demographics							
Sexual identity conflict				✔			
Family Factors							
Problems with parents	✔			✔			
Violence in the home						✔	
Family member's suicide							
Adverse Life Events							
Sexual abuse				✔		✔	
Homelessness			✔	✔			✔
Psychiatric Conditions							
Borderline personality disorder							
Eating disorder	✔						
Personality Factors							
Lower extroversion				✔	✔	✔	✔
Higher neuroticism		✔		✔			✔
Risk Taking Behaviour							
Aggressive behaviour		✔		✔	✔		✔
Property damage				✔			
Smoking		✔					
Intravenous drug use				✔		✔	
Drink driving							
Greater number of sexual partners		✔			✔		
Medical and Physical Conditions and Ailments							
Significant loss of sight			✔				

Note: Ticks refer to effect sizes (differences) of more than five units and/or associations that were significant at the $p < 0.05$ level.

Table 7.6 shows that a sense of hopefulness was protective against depression for many of the high risk groups for young females.

While these findings begin to provide some insights into protective factors for depression among young people, there is considerable work to be carried out in order to more comprehensively identify and measure protective factors, particularly in the area of social and community connectedness. Again, it is worth highlighting that when considering protective factors it is more appropriate in some cases to focus preventive efforts on eliminating the risk factor, rather than ameliorating the subsequent negative outcomes that may arise as a result of the risk factor. Thus, while targeting interventions at protective factors for particular high-risk groups is desirable, where possible it is also necessary to eliminate the risk factors.

KEY FINDINGS

- *There was a direct protective association between the majority of the protective factors measured in the study and current depressive symptomatology for young people. Consequently, universal mental health promotion initiatives designed to enhance these protective factors are warranted.*
- *Generally, the pattern of protective factors for high-risk groups is complex and the identification of appropriate early intervention strategies should consider the specific protective factors for the particular high-risk group in question.*
- *A sense of hopefulness was protective against current depressive symptomatology for both young males and young females in a range of high-risk groups.*
- *Social and community connectedness was protective against current depressive symptomatology, particularly for young males, in a range of high-risk groups.*

8. Summary and Recommendations

8.1 SUMMARY OF THE STUDY PURPOSE AND DESIGN

The *Queensland Young People's Mental Health Survey* was conducted by The University of Queensland as part of the research and evaluation component of Queensland Health's Young People at Risk Program. The aim of the Young People at Risk Program was *"To use a community development approach to improve the mental health and well-being of young people (10-24 years) through improving the community's and health system's response to young people at risk of self-harm, suicidal and related behaviour"*.

The target population for the survey was 15 to 24 year olds living in Queensland, Australia. The study was designed as a cross-sectional household survey, which used telephone recruitment followed by an anonymous self-report postal questionnaire and telephone follow-up to encourage return of the questionnaire. A total of 78,108 telephone calls were made to 35,509 households of which 4,594 households had at least one eligible young person aged between 15 and 24 years. A returned completed questionnaire was received from 3,092 young people, resulting in an overall participation rate of 67.3%.

The survey had several primary aims, including the collection of baseline descriptive data concerning young people's mental health, against which change over time could be measured. Service utilisation issues, including access and preferred type of mental health service, were also an important component of the study. In addition, the survey was designed to explore the risk and protective factors for current depressive symptomatology for young people. The survey provides valuable information on the current mental health of Queensland's young people, which can inform the development of mental health promotion and prevention strategies, early intervention strategies and the implementation of mental health service models.

8.2 SUMMARY OF PRINCIPAL FINDINGS

The report contains a wealth of valuable information and several findings stand out as having particular significance for understanding young people's mental health and well-being and for contributing to the development of health promoting environments for young people. The high rate at which young people reported depression is comparable with other studies and once again emphasises that depression is common among young people. One in eight young males and one in four young females reported current depressive symptomatology, which highlights that it is imperative that governments and communities work together to implement innovative and sustainable interventions to reduce this disturbingly high rate of despair. Three broad groups of risk factors associated with depression emerged from the study: (i) relationship issues, (ii) violence and abuse, and (iii) loss and failure. These areas provide an excellent evidence base for the design of innovative health and social interventions to reduce depression. On the other side of the story, two domains emerged as particularly protective: (i) social and community connectedness and (ii) a sense of hopefulness. The identification of these protective domains and their role in ameliorating the negative consequences of adverse life events was an innovative component of the study that provides the groundwork for further development of this approach.

When feeling unhappy or distressed, young people overwhelmingly prefer to seek help from family and friends rather than from more formal sources of help. There is a need for young people's families and friends to be cognisant with basic ways of finding and providing guidance for distressed young people. This finding has important implications for the mental health literacy of the community. Answering the question, 'where does the community's responsibility in regards to providing help for distressed young people begin and end?' poses great challenges.

Alarmingly, the majority (67%) of young people who had made a suicide attempt did not see a mental health professional following the attempt. Therefore, access to and utilisation of mental health services for young people warrants special attention. Concerns regarding confidentiality, fear and cost were identified by young people as significant barriers to service utilisation and need to be targeted. Again, it is worth noting that young people's concern regarding confidentiality is not in line with the rate of documented breaches of confidentiality so understanding why this perception exists would be valuable.

Thirty percent of young males reported that they had not approached any formal or informal sources of help when they were distressed, and 39% of young males indicated that they would never seek help from a formal service if they were feeling distressed. Clearly, efforts need to be expended in order to further understand both the reasons for, and appropriate responses to, this low rate of help-seeking. Moreover, it is likely that the appropriate response is more complicated than merely encouraging help-seeking behaviour among young males. For example, there is some evidence from the study that reluctance to seek help may be associated with traditional notions of masculinity.

These principal findings provide useful insights into future directions for mental health promotion and prevention and early intervention. Consideration should also be given to the key findings outlined at the end of each of the result chapters throughout the report and the recommendations below, as they provide a more detailed representation of the evidence base regarding the way forward.

CONTEXT FOR THE RECOMMENDATIONS

In consideration of the key findings and within the constraints of the limitations of the study (as outlined throughout this report), a series of recommendations have been developed to guide future mental heath promotion and prevention and early intervention strategies for young people. A synthesis of the key findings, the emergent themes, the current literature and the policy environment, have been considered in the development of these recommendations.

As stated previously, when employing a risk and protective factor approach to the development of health interventions, it is necessary to determine at what level it is realistic and meaningful to intervene. Therefore, principles of health promotion and prevention, and early intervention, including modifiability, commonness (prevalence) and strength of the association between the risk or protective factor and the adverse outcome, have also been considered in the development of the recommendations. In relation to modifiability, in the current study drink driving was identified as a risk factor for depression. However, it is less meaningful to reduce depression among drink drivers than it is to reduce drink driving. In other instances, it will be useful to focus on both the risk factor and its associated protective factors. For example, in regards to sexual abuse it is desirable to prevent the abuse and also worthwhile to enhance the protective factors for those who have experienced sexual abuse. In relation to commonness and strength of association, Rose (1992) stated that "a large number of people exposed to a small risk may generate many more cases than a small number exposed to a higher risk" (p. 24). This "axiom of prevention" provides support for a focus on upstream and universal approaches. Nevertheless, working with more vulnerable or at-risk groups, which is the early intervention approach, remains essential.

The series of recommendations primarily target young people's (15 to 24 year olds) settings and networks. Yet, innovations and strategies for improving the mental health of children, by developing positive pathways at an earlier age, will also contribute to the mental health and well-being of 15 to 24 year olds. The report is rich with information and data and the recommendations represent a synthesis of this

information. Therefore, the recommendations below represent the minimum effort required to adequately address young people's mental health and well-being. The series of recommendations are not exhaustive and it is likely that social and health structures and practitioners will identify specific findings from the study that may contribute to their day to day practice. Furthermore, the series of recommendations are not listed in order of priority.

When considering these recommendations, the evidence base surrounding the responses and programs designed to address each of the specific targeted areas such as interpersonal skills, family environment and sexual abuse will need to be taken into account. Potential responses should be audited to identify those for which there is evidence of effectiveness. Within a specific area, priority should be given to those approaches that are evidence-based and where there is limited evidence, priority should be given to careful piloting and evaluation in order to gather the necessary evidence. In order to facilitate the identification of existing evidence-based approaches across the relevant disciplines and sectors, it will be necessary for extensive links and partnerships to be enhanced and established.

8.4 THE RECOMMENDATIONS

1. Implement, support and link with initiatives designed to reduce risk factors for depression among young people.

The vast majority of potential risk factors measured in the study were associated with higher levels of depression among young people. This is consistent with past research. Multidimensional and multisectoral initiatives designed to reduce these risk factors are therefore warranted. The Mental Health Promotion and Prevention National Action Plan (Commonwealth Department of Health and Aged Care, 1999) identifies specific programs of this nature, which have been evaluated and shown to be efficacious. These multidimensional approaches, which often address common antecedents for several adverse social and health outcomes, are facilitated by the development of an intersectoral approach and partnerships across relevant sectors.

Several risk factors were identified as being of particular relevance, which has resulted in several specific recommendations under this overarching recommendation:

Support efforts to reduce young people's anxiety about educational performance and failure.

> Enhanced links and partnerships between the educational sector and the mental health sector are necessary to address adequately this association within an educational setting (including primary, secondary and tertiary education). Initiatives designed for the broader community, particularly parents, which address this issue, may also be appropriate.

Implement, support and improve links between initiatives designed to reduce sexual abuse and its specific psychosocial antecedents.

> There is a vast literature that links sexual abuse to a plethora of adverse mental health outcomes including eating disorders, alcohol abuse, borderline personality disorder and chronic headaches. It is imperative that substantial efforts are directed toward preventing sexual abuse.

Implement, support and improve links between initiatives designed to reduce sexual identity conflict and its specific psychosocial antecedents.

Initiatives in schools/universities and workplaces to increase tolerance of gay/lesbian and bisexual lifestyles will go some way to addressing distress due to sexual identity conflict. Partnerships between the health, education, media and gay/lesbian and bisexual communities will facilitate the development of appropriate initiatives.

Implement, support and improve links between initiatives designed to reduce risk taking behaviours including delinquent behaviour and their specific psychosocial antecedents.

Risk taking behaviour could equally be a consequence of depression as much as an antecedent. This possibility should be considered in health promotion campaigns designed to reduce risk behaviours such as smoking and binge drinking. The National Crime Prevention (1999) report provides an audit of multidimensional services and programs that may ultimately prevent crime.

Implement, support and improve links between initiatives designed to reduce eating disorders and its specific psychosocial antecedents.

Again the direction of the association between eating disorders and depression is unclear and it is as likely that depression is an antecedent for eating disorders as much as the reverse is possible. Partnerships between professionals within mental health, nutrition and the physical activity, leisure and sporting sectors may facilitate progress towards developing and implementing appropriate programs for reducing eating disorders among young people. Partnerships with popular media may be useful to promoting healthy eating and positive body image more universally.

2. Continue to support suicide prevention initiatives.

In response to the increasing rate of death by suicide among young Australians, males in particular, the Commonwealth Government and the States/Territories have implemented a multitude of suicide prevention initiatives. Many of these initiatives have aptly addressed the problem of suicide from a multidimensional perspective and at all levels across the spectrum of prevention. Approximately 7% of the young people in the study reported that they had ever tried to kill themselves. Clearly, suicidal ideation and behaviour remain a concern among young Australians and efforts in this area should be continued. These efforts should be congruent with the growing body of evidence surrounding suicide prevention.

3. Implement, invest in and link with initiatives designed to enhance factors that protect against depression among young people.

The vast majority of potential protective factors measured in the study were associated with lower levels of depression among young people. Again, the implication is that multidimensional initiatives designed to enhance protective factors are clearly warranted. Many of the relevant initiatives are comprehensive programs designed to both reduce risk factors and enhance protective factors. Appropriately, many are school-based, which is in line with the upstream nature of primary prevention and early intervention principles that focus on the early development of knowledge, skills and supportive environments. Nevertheless, there is scope and a need to understand further how such programs can be introduced in other settings for young adults (18-

to 24 years). Additionally, the pattern of protective factors for high-risk groups is complex and the identification of appropriate early intervention strategies should consider the specific protective factors for the particular high-risk group in question.

4. Enhance young people's interpersonal and intrapersonal skills.

The high prevalence of distress among young people as a result of "problems with friends" and "relationship break-ups" warrants specific attention and resources to support initiatives that attempt to directly address the improvement of young people's interpersonal skills such as conflict management, tolerance, assertiveness, and communication and negotiation skills. Links between relevant sectors including mental health, public health and education will assist in the identification of good practice principles for initiatives designed to enhance young people's interpersonal skills.

Initiatives that aim to promote young people's sense of self-worth and self-efficacy, improve their sense of hopefulness, and enhance problem solving skills are indicated by the finding that a range of intrapersonal skills are protective against depression for young people. When designing and implementing universal initiatives aimed at improving intrapersonal skills such as enhancing a sense of hopefulness and optimism among young people, it is necessary to be cautious. For example, approaches that focus on presenting an image of young people as having an optimistic and rewarding future may act to emphasise perceived social and economic inequalities. Subsequently, this may alienate young people who perceive such a future being beyond their reach and may contribute to increased distress for some young people.

5. Implement, support and improve links between initiatives designed to enhance family and domestic relations and promote strong positive attachments between parents/guardians and young people.

Young people's self-reported "problems with parents" were found to be a particularly common cause of distress for young people in the study. Additionally, distress due to violence in the home and parental mental illness were also associated with higher levels of depression. These findings are consistent with the plethora of research that shows that family environment influences mental health and well-being. Several parenting programs, as reviewed in the Mental Health Promotion and Prevention National Action Plan (Commonwealth Department of Health and Aged Care, 1999), are currently being implemented and evaluated within Australia, and these initiatives should continue across a range of settings. Broad-based campaigns to raise awareness of and reduce the incidence of domestic violence and emotional and physical child abuse are also supported under this recommendation. Programs to support children of parents with mental illness should also be further developed.

6. Enhance social and community connectedness.

Social and community connectedness was a significant protective domain across a range of high-risk groups for depression. Interestingly, the findings suggest that it may be particularly beneficial for young males' mental health. Previous research has demonstrated that "social support and good social relations make an important contribution to health" (Wilkinson and Marmot, 1998). Social support traditionally refers to domains such as attachment, and is based on the existence of people who can be relied upon and who care about and value the recipient. However, research in the area of social support has highlighted that the quality and diversity (e.g. the strength of weak ties) of social ties and networks are as relevant to mental health and

well-being as is the extent of the ties and networks (Granovetter, 1983). In addition, there are a number of recent directions in healthy public policy that are related to enhancing social and community connectedness such as social capital and community capacity building, which refer to the need to support well-being in communities over and above the characteristics of individuals (see Recommendation 14). For example, the existence of, and connectedness to, groups and organisations in local communities may be associated with health and well-being (Macintyre, Maciver and Sooman, 1993).

7. Improve mental health literacy of family and friends.

The findings from the current study clearly demonstrate that when feeling unhappy or distressed, young people primarily seek help from their family and their friends. The notion of mental health literacy has become an integral component of mental health promotion and prevention approaches. Current information and measurement tools for mental health literacy are limited and inadequate. A broad view of mental health literacy should be adopted. For example, this view may encompass knowledge of specific mental health problems, attitudes to mental health and appropriate responses to young people experiencing distress. This latter issue is complex and controversial, as it is not clear where it is appropriate for the community's response to begin and end in contributing to preventing young people from progressing down an adverse mental health pathway.

8. Ensure the provision of adequate mental health services to respond to young people.

Without an efficient and effective mental health service system, it is unlikely that the mental health needs of young people will be responded to adequately. Allocated resources should address issues such as accessibility, pathways of care, appropriateness and quality assurance. Wright and Martin (1999) noted that knowledge of local services for young people and their quality and ongoing professional relationships with the staff of these services facilitates referral and access.

9. Reduce barriers to service utilisation for young people, particularly issues relating to concerns about confidentiality, fear and cost.

Reducing barriers is a complex issue. For example, ensuring confidentiality is not always possible and in some cases may be in conflict with the principles of continuity of care and duty of care. Providing appropriate training and education for service providers about the barriers for young people will enhance the skills necessary to address these issues within a local context. It may be appropriate to accompany this training with information targeted for young people that details the principles of confidentiality, and the procedures and practices within services. Provision of information for young people about how and where to access local and low cost services may in some cases be appropriate.

10. Identify, and provide appropriate training and support for counsellors and general practitioners who provide services primarily for young people.

When young people are feeling unhappy or distressed, their preferred formal services are counsellors and general practitioners. The development and implementation of training programs addressing mental health promotion and prevention and early intervention strategies with counsellors and general practitioners who have a substantial case load involving young people are therefore warranted. Furthermore, it

would be wise to identify and promote counsellors and general practitioners who are skilled in working with young people and to disseminate this information throughout young people's networks.

11. Develop and facilitate the use of appropriate referral pathways to mental health services for young people who attempt suicide.

Two out of every three young people who reported a suicide attempt did not see a mental health professional following the attempt. This finding indicates that there is a need for establishing comprehensive and integrated care for young people and facilitating young people's access to mental health services.

12. Support research to elucidate the relationship between problems at work and distress among young people aged 18 to 24 years.

"Problems at work" was a common cause of unhappiness and distress for young people, particularly those aged 18 to 24 years. Unfortunately, the specific nature of these problems was not elucidated in the study. The implication is that future research in this area should be supported. Furthermore, the settings and promotion and prevention mediums to reach this age group are not well developed or researched. It may be that closer partnerships between healthy public policy and those workplaces that commonly employ 18 to 24 year olds will need to be developed in order to adequately address mental heath issues for this age group.

13. Support research initiatives designed to enhance understanding of the relationship between help-seeking, service utilisation and mental health, particularly for young males.

Many young people, particularly young males (30%), indicate that they will not seek help from anyone (formal or informal) when they are distressed. Furthermore, approximately 40% of young males indicated that they would never use a service if they were unhappy or distressed. Since it is likely that the appropriate response is more complicated than simply encouraging help-seeking behaviour among young males, in-depth investigations concerning this issue need to be designed and conducted.

14. Future mental health research needs to consider, in more depth, the role of social, community and cultural issues.

The role of social and community factors and their measurement is not well developed. There are a number of interrelated terms in the recent literature such as social capital, social connectedness, community connectedness and community capacity that refer to related elements of the broad social and community context. Generally, these concepts refer to the need to measure the contextual factors that support well-being in communities over and above the characteristics of individuals, for example the existence of, and connectedness to, groups and organisations in local communities (Macintyre, Maciver and Sooman, 1993). Measures of the social and community context may include domains such as physical features of the environment (e.g. availability of parks); healthy and unhealthy environments at home, work and play; public and private support services; social and human capital; civic engagement; tolerance of diversity; neighbourhood reputation; and a sense of safety and pride in the community. Any future research in the area of young people's mental health needs

to embrace the breadth of these concepts.

The inclusion of cultural factors such as measures of individualism, optimism about the future, popular media, and cultural attitudes toward mental health issues would considerably augment the current evidence concerning the pathways to good mental health and well-being for young people. For example, as Eckersley (1999) suggests:

> *"... highly individualistic societies project images, and raise expectations, of virtually unrestrained personal freedom and opportunity. They also tend to be more clearly divided into winners and losers, and to link happiness to the extrinsic goals of wealth, power, and celebrity. The result is that, for growing numbers of people the culturally promoted prizes are simply out of reach – and, even when they are won, fail to produce the promised satisfaction. This tension would be worsened by structural changes in society and the economy – such as increasing inequality, poverty and unemployment – that work against achieving these things."*

In order to more adequately capture the role of social, community and cultural issues in the mental health area, it is imperative that multidisciplinary teams are brought together to consider appropriate study designs and domains to be explored. Furthermore, the conduct of longitudinal studies would substantially enhance the evidence base concerning mental health promotion and prevention and early intervention initiatives for young people.

15. All mental health promotion and prevention, and early intervention strategies that emerge from the recommendations, should be monitored and evaluated.

Research, monitoring and evaluation frameworks and processes should be incorporated into all mental health promotion and prevention and early intervention strategies, in order to continue to develop the evidence base for good practice in these areas. The impact of local contexts and different settings on the transferability of social and health initiatives makes monitoring and evaluation an integral component in the continued effectiveness of such initiatives. The culture of learning from evaluation, rather than simply a process of accountability, should be encouraged and supported.

CONSIDERATIONS IN THE IMPLEMENTATION OF THE RECOMMENDATIONS

There are several good practice principles that should be considered in the design and implementation of any social and health interventions that come about as a result of these recommendations. For example, typically we know that intervention programs for young people need to be sensitive to the lifestyles and needs of specific groups of young people; that is, the social, cultural and environmental influences for the particular target group of young people need to be considered in the design of health interventions.

Hamburg (1997) suggests that a "comprehensive health-promotion strategy would optimally involve a community-wide commitment from the full range of institutions with which adolescents are involved" (p. 11). Essentially, social and health intervention programs should aim to develop the capacity of the community to respond to young people's needs. This involves programs which build community capacity through activities such as building partnerships, developing resources and enhancing human and social capital, particularly since such programs are potentially more sustainable (Chavis et al., 1993). One important partnership involves young people themselves, who should be provided with the opportunity to participate in the planning, implementation and evaluation phases of social and health intervention programs. The peer group for young

people is a powerful influence and in some instances it will be appropriate to consider using peer networks to disseminate information to young people.

As outlined throughout the report, interventions with young people should not focus on risk factors alone, rather resilience and protective factors are vital considerations in attempting to promote healthy lifestyles among young people. Protective factors can buffer the effects of adverse life events and therefore the enhancement of individual, community and structural protective factors can assist young people back onto a pathway to social and economic independence.

Another principle of successful health interventions for young people is that they should, where possible, be not only knowledge-based but also skills-based. While knowledge is an important foundation upon which to develop skills and conditions that may be necessary to change behaviour, knowledge alone is insufficient to change young people's behaviour. In short, knowledge and skills are both necessary for behaviour change to occur. In a recent essay, this concept is taken a step further and it is suggested that while knowledge and skill are important, a young person's ability to identify with what they are learning is equally important. This identification will enhance the young person's ability to engage in the activity rather than simply imagine the activity (Cohen and Ainley, 2000).

Finally, this study has provided a wealth of valuable information to inform mental health promotion and prevention, and early intervention initiatives and policy development for young people's mental health and well-being. This research provides a significant contribution to developing the evidence base in this area. Future efforts need to ensure that they further progress our understanding and knowledge of good practice and evidence-based approaches to enhancing young people's mental health and well-being.

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